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## Contributed Articles

### Production of Comb Honey vs. Extracted.

BY R. C. AIKIN.

The question of how much more extracted than comb honey can be produced, remains unsettled. We have for years been taught, and have generally accepted as true, that two pounds of extracted can be produced where but one of comb can be. I have not believed this statement, and do not yet think it proven. Many good apiarists—and who would not knowingly represent an untruth—have asserted that they can get double, and even more, of extracted over that of comb. In order to show that there are some mistakes made in the estimates, and to stimulate those so inclined to make more definite experiments, I write this article.

It is now over 20 years that I have been producing honey. I think, without exception, there has not been a year that I have not produced both comb honey and extracted, and in the same apiary. Without any very close estimates I had always thought I could get from 3 of comb to 4 of extracted, to 2 of the former to 3 of the latter. The last few years, however, I have put the ratio at about 3 to 4 as more nearly correct, tho this ratio would not apply at all times and in all localities; but in a series of years in most locations it would be more nearly right than the higher ratio.

It has *always* been my practice to keep *strong colonies for honey-gathering*, the strength being maintained by discouraging or preventing swarming, and by doubling.

The general factors governing in the matter are strength of colony, rapidity of flow and temperature.

ILLUSTRATIONS FOR COMPARISON.

1st, a weak colony. The flow slow and the temperature low would confine the colony to the brood-chamber almost exclusively. Raise the temperature and still they would be loth to leave the brood-chamber. Increase the temperature and flow both, and they would do fair to good super work, either for comb or extracted. A good flow and low temperature would give *some* honey in extracting-combs, and but little or none in sections; but the colony with sections would *pack the brood-chamber* more solidly than the one having the extracting-combs.

2nd, a strong colony. Flow slow and temperature low would pack the brood-combs and put some, possibly, in the extracting-combs. Flow slow and temperature high would be apt to put *nearly all* honey in the extracting-combs, and possibly a little in the sections. Flow good and temperature high would rapidly fill the extracting-supers and sections, both; and if unlimited room in both, nearly all the honey would go into the extracting-combs, while the comb-honey colony would pack the brood-combs and put the balance in the sections. Flow good and temperature low would fill the brood-combs well and do good work in the extracting-combs, and fair in the sections.

Now while the weak colony cannot build comb with the temperature low, they can and do pack the brood-chamber solid. If sections were on they would not work them, because they cannot; but the same colony having extracting-combs would put some in them near the brood-nest. A rapid flow and temperature high enough so they can build comb rapidly, or go to any part of the hive, the comb-honey colony will put all they can in the brood-combs, and work a corner or end of a super of sections; but if it had extracting-combs it would put the honey mainly above and the brood below.

If one keeps only weak colonies he may expect the per cent. of extracted to be much above that of comb honey; but if good to strong colonies, they can preserve heat enough to build comb most of the time. The colony that has to build comb to receive the honey as it comes in will almost always pack the brood-chamber; but, on the other hand, if they have combs ready-built they will—when given unlimited room—put nearly all the honey above and fill the brood-combs with brood and pollen.

If the honey-flow be in the summer—basswood or clover—the weather will nearly always be warm enough for comb-building, hence strong colonies at such times will gather about as much when run for comb as for extracted. I admit there will not be as much in the sections as in extracting-combs; but right here is where nearly all are at fault in their estimates. Only the honey in the super is counted, yet the comb-honey colony has usually from 10 to 20 pounds more honey in the brood-combs than has the other. The more room with full sets of extracting-combs, the more the super will get the honey to the disadvantage of the brood-chamber. The stronger the colony and the warmer the weather, the more the tendency to store in the extras and leave the brood-combs light. If the weather be so cool as to interfere with wax-work and still have a good flow, the ready-built store-combs give the colony quite an advantage over the one that has to build, hence in such case the extracted-honey colony would do much the best. I think right here is where my experience has been so different from that of others. It lies in two facts: I keep strong colonies—stronger than the average apiarist—and my honey season has been in the midsummer when the weather was hot. My basis of calculation has been hot weather and strong colonies.

While at the Lincoln convention I learned from the Nebraska people that their flow comes in the fall, with generally cool weather, and especially cool nights. These cool days and nights would make it difficult to build comb, yet the secretion of nectar went on and the daytime was warm enough to let the bees gather. I remember a little experience in Iowa on that line, when the cold at night drove the bees from the sections or stopped work in them.

There is also another condition that favors a larger yield of extracted honey, and that is when the flow comes very *suddenly*, and to some extent when it continues very freely. An abrupt flow that would fill the brood-combs in two or three days before wax-secretion gets fully started, would result in loss because there would be no place to store; but I have never but once had such experience. That one time filled the brood-combs and 16 drawn sections, and the foundation in the other sections was being workt, and new wax beginning to be added. It is clear that in this case the ready-built combs was a gain. It is now conceded by many that unfinisht sections are good property. I consider them valuable to use even if the honey in them were to be extracted. There are times when the flow is abrupt and free, that they would be of ser-

vice; but the greatest gain to be derived from them is in getting the bees started in the sections.

Keeping a colony on scales and taking a daily record is a very good way to find out many things about results under the various conditions. I have for many years kept a scale hive, but I have lost much of the benefit by not keeping a permanent record in a book. The season of 1895 I had three apiaries. One was run for comb, one for extracted and a little comb, and one for extracted only. The scale hive showed a daily gain during the flow of a little less than 2½ pounds. The total gain was 62 pounds, and the time 26 days. In 1896 the flow lasted 25 days, and the average gain was two pounds per day. In 1894 the flow lasted 30 days, and gave a total gain of 60 pounds—2 pounds per day.

Now right here I want to give my experience for seven years with three apiaries of 200 to 300 colonies, and with both comb and extracted honey produced. The year 1890 was a good year. The average yield was 150 pounds per colony. I have not now the figures, tho I have a rather clear remembrance of general results. This year was the one experience previously referred to in which the flow came very abruptly and freely, when there were 16 unfinisht sections per colony on to start with. The flow was very free for a week or more, and then not so free, yet fair to good, lasting 53 days. Counting the surplus and winter stores, the average gain was about 3½ pounds per day. The extremes of yield were 25 pounds for the lowest and 250 pounds for the highest colony. Add to this the winter stores, and the average daily gain for the best colony was about 5½ pounds. In 1891 the yield was about 100 pounds per colony, with *probably* about 3½ pounds the average per day. In 1893 there was a fair yield; it came rather abruptly, but not of very long duration. The years 1894, 1895 and 1896, have been previously given.

Now there was one thing that was plain in those years: Invariably the comb-honey colonies wintered better. The best year of the seven—1890—the best yield from any one colony was a comb-honey colony, tho I must admit that the best colonies were run for comb honey. Some pretty fair colonies were run for extracted, and, on the 2 to 1 plan, should have shown as much as the comb-honey colonies. The two years of 1894 and 1895 I did take more extracted per colony than comb, but the following springs I found how I got it, when the bees of this lot were starving to death, while the comb-honey lot were well supplied with stores. In 1896, I watcht the matter carefully, and when I left my extracted colonies with stores equal to the comb-honey colonies, I got no more from the one than from the other. Taking the seven years throughout, I am now thoroughly convinced that I should have been better off had I taken less from those run for extracted honey. I would have had more bees alive in the spring, and better colonies when the flow came.

There are two evils in the use of the extractor. The first is a disposition to take unripe honey. The second is to take *too much*. As before shown, there is a strong disposition on the part of *strong* colonies, having a lot of empty combs above, to put the honey there, and when once there we are prone to extract it, thus leaving the colony short of stores. With me this is no theory, it is a fact proven by experience.

Now if your flow is in the fall, or when the weather is too cool for comb-building, it is evident you can get more extracted than comb. If you keep weak colonies the ratio will be still more markt. But with strong colonies and good comb-building weather, the difference is by no means great. Never forget to count the contents of the brood-chamber when estimating the work of a colony.

There is one other point often forgotten: A normal colony will have a surplus of wax that goes to waste when run for extracted honey. I do not believe we lose 20 or more pounds of honey when the colony builds comb. The bulk of wax used in the sections would be secreted if the colony were run for extracted, just the same.

My next article will treat of the cost of producing and marketing the two kinds of honey, etc.

Page Co., Iowa.

## The New Constitution and Amalgamation.

BY DR. A. B. MASON.

I would like to say to the readers of the American Bee Journal that in replying to Mr. Newman's "criticism" I had no thought of "inviting an unpleasant personal controversy," nor a controversy of any kind, and had no idea that a "criticism," of the Constitution adopted at Lincoln, was considered so sacred as to debar criticism, especially after the author had said that "a lively discussion should be the result" of its publication, and I thought I had as good right to point out what (to me) seemed to be some of the fallacies of the "criticism" as its author had to point out what he considered some of the "incongruities" and "lack of completeness" of the New Constitution.

I don't remember to have made the "assertion" that the General Manager had not "submitted the question" to the Advisory Board, but to me the natural inference from what he did say was, that he had not, and would not, do so. Here is the language of the "criticism" that led me to that inference:

"The whole thing is so incongruous and incomplete that it seems necessary to refer it back to the next convention at Buffalo, for revision. Before it is in proper shape to present to the 'National Bee-Keepers' Union,' it needs a thorough overhauling and reconstruction.....There is, therefore, nothing left for its advocates now to do but to await the action of the convention next year."

With that statement before me, it doesn't seem to be "nonsense" to state that the General Manager *did* make a "decision in the matter of submitting amalgamation to a vote;" and from the number of letters I have received from well-known bee-keepers, commending my criticism of the "criticism," I know I'm not the only one who drew the inference I did; and the forceful articles of the Hon. Eugene Secor, and Editor W. Z. Hutchinson, of the Review, that have appeared in the American Bee Journal in favor of the adoption of the New Constitution by the National Bee-Keepers' Union, should not be lightly esteemed.

It seems a little strange to me that any member of the Advisory Board of the National Bee-Keepers' Union should for a moment entertain the thought of refusing the reasonable request of such an organization as the United States Bee-Keepers' Union; and that any one of that Board should use the following language is beyond my comprehension: "I should say, *submit the criticisms to each voter, and put it to vote.*" (Italics are mine.) It doesn't seem *possible* that any one of that intelligent Advisory Board could possibly think of submitting "criticisms" to the members of the National Bee-Keepers' Union. The request was for the submission of the Constitution to a vote, and for the General Manager, or the Advisory Board, to "submit" any criticisms, or make any suggestions, either for or against its adoption, when submitting it to a vote, would be entirely out of place.

Since the Lincoln convention I have received the membership fees from 10 bee-keepers, and as in each case it was uncertain as to which "Union" the fee should go, each person was written to for more definite instructions, and in each instance the reply was definite. They wanted their money to go to the Union that proposed to prosecute adulterators.

I favor amalgamation because it will put more money into the hands of the Board of Managers, than will be paid in if amalgamation is not accomplisht; and because the United States Bee-Keepers' Union will take up the matter of adulteration, which is a more important matter than that which has been so successfully handled by the National Bee-Keepers' Union.

The services of the United States Bee-Keepers' Union will not be needed to prosecute adulterators in Ohio, for we have a pure food law that "fills the bill," and a commissioner and assistants that have done, and are doing, efficient service in enforcing it.

Toledo, Ohio.

## Winter Stores—Sundry Questions Answered.

BY G. M. DOOLITTLE.

QUES.—"I wish you would tell the readers of the American Bee Journal what you think of my mode of wintering bees, for if it is a good plan, others may wish to try it. I have five colonies of bees and when I examined them the first of October I found they had the two frames, next the sides of the hives, solid full of honey; the next two frames were at least three-fourths full, while the remaining frames were nearly or quite one-third full. I use eight Hoffman frames to the hive, and they are spaced 1⅜ inches from center to center. Do you think they have stores enough for winter?"

ANS.—Yes, and not one colony in 20 will comsume the amount of honey you speak of before the first of the May following. Many are often puzzled to know how much honey a colony should have in the hive on October first to insure safety as regards stores, so they will not be liable to starve. After years of experimenting along this line, I now allow from 20 to 25 pounds of honey to each colony to be wintered on the summer stand, and from 15 to 20 pounds for those which are to be wintered in the cellar. That is, I see that all colonies have as much as the smallest number of pounds given, but where

all have plenty I do not take out any, even though some colonies have as high as 40 to 50 pounds. If any lack in stores, then I take from those colonies having more than is needed, to supply the deficiency in others. A Hoffman frame filled full, when spaced as above given, will hold not far from six pounds; that would be 12 pounds for the two outside combs. The next two would contain about four and one-half pounds each, or nine pounds, while the remaining four, at say two pounds each, would be eight pounds, this making about 29 pounds in all, which is four pounds more than the highest amount I think is needed for out-door wintering.

BEES PACKT FOR WINTER OUTDOORS.

QUES.—"The hives are single-walled and set on a rack about 18 inches from the ground in a fence corner. The fence is six feet high and tight. I have left the super on and a cushion of planer shavings fills this super. I have packt all around the hives and between them with leaves, except the front. The top and sides are boarded up so as to keep all dry during the winter. Is this as good as chaff-packing would be?"

ANS.—I should say that my correspondent's bees were pretty well fixt for winter, and probably will winter nearly, if not quite, as well as if in chaff hives. Why I say, "if not quite," is that the front of the hives have no packing, as will be noticed. Where hives face the south, as I think all hives should, there being no packing on the south side of the hive, every time the sun shines during the winter it will heat up the front side of the hives, this causing the bees to break cluster and roam along the inside of the warmed up hive, while many bees will be enticed out through this means, to perish in the cold which they will encounter outside as soon as they take wing. This will cause the loss of many bees during the sunshiny days of winter, providing the breaking of the cluster often, does not cause them to get the bee-diarrhea and die altogether. Now had this front side been chaff-walled it would have taken nearly all day to have gotten it comfortably warm, when the warmth so stored up would have helpt very much in keeping the frosty temperature out at night. Then there is an objection in having more than one colony on any stand or bench, for where they are so fixt it is necessary to have the hives closer together than is convenient for manipulating them to the best advantage; besides the annoyance which always comes from the whole on the rack or bench being disturbed when any jar or noise is made while working at any individual hive.

CONSTRUCTION OF SHADE-BOARDS.

QUES.—The correspondent next wishes to know how "shade-boards are constructed;" and says, "My hives face the south, and the bees hang out in summer."

ANS.—Shade-boards are used for two purposes: First, to shade the hives in summer; and second, to shade the entrances, so as to keep out the snow and cold winds of winter, and the sun from shining on the entrance so as to entice the bees out to fly when the atmosphere is too cold for them, as spoken of above. For this, any wide board answers all purposes, the same being set so as to lean up against the front of the hive, and also being long enough to reach two-thirds the way up the front of the brood-chamber. For the former, a light frame-work is made, generally of carpenter's lath, with lath nailed on the frame at set distances apart, while over the whole is placed a sheet of the largest-sized tin; or building-paper cut to the right size may be used in place of the tin. If this paper is kept well painted it will last well. I use tin, but others prefer the paper. The shade-board should project over the front side of the top of the hive, far enough to shade down to the entrance, in hot weather, while it is better not to shade the entrance during May, as the sun helps in warming the hive for brood-rearing. A stone or brick is generally necessary, placing the same on top of the shade-board, in all places where the wind can strike, to keep these boards from being blown off.

COLOR OF HIVES.

QUES.—He next says: "My hives are painted brown. Would the dark color make any difference?"

ANS.—If the hives are thoroughly shaded the color will make little or no difference, but for hives which stand in the sun no other color should be used in painting except white. Hives painted white can stand in the sun without inconvenience to the bees, and with no danger of the combs melting down.

Onondaga Co., N. Y.

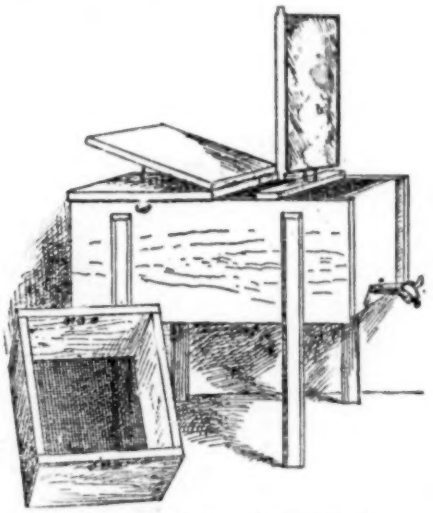
**Every Present Subscriber** of the Bee Journal should be an agent for it, and get all others possible to subscribe for it. See offer on page 29.

## Handy Uncapping-Box and Its Use.

BY C. E. PHENICIE & BRO.

The accompanying illustration is our uncapping-box with a comb in position to be uncapt. You will notice a bar across the box, through which a pin is projecting upward, which acts as a pivot when the center of the end-bar is placed upon it. One side of the comb is uncapt, when it is swung around and the other side cut off, the cappings dropping into the box. The inside consists of two boxes with wire bottoms, one of which is standing outside.

The object in having two boxes is this: When one box becomes filled with cappings or pieces of comb, it is slipt to the left and allowed to drain while the other is being filled; when they are both full the one to the left, which the honey has all drained out of, is emptied in the wax-extractor;



*Handy Uncapping Arrangement.*

the full one is then slipt to the left, and allowed to drain while the other is being filled. The honey can be drawn off at any time through the faucet, shown at the right. The cover, which is now folded back, is closed when not in use, which makes its free from ants, robber-bees, dirt, etc., and also furnishes a convenient table or work-bench. We have had one of these in use for five years, and would not think of running an apiary without it.

[Mr. O. O. Poppleton, when here a few weeks ago, described an uncapping-box that, in outside appearance, must be very much like the one above. The internal arrangement, however, is different. Mr. Poppleton's, while about twice as long as broad, is made so as to take his frames crosswise. The combs are uncapt on a cross stick, the cappings falling into the box near the end. In the other end the sliced-off combs are hung, and sometimes the man with the knife will have stored in the box quite a number of combs ahead of the other man, who is extracting. If there is one person, he uncaps until the box is filled with combs, and then he is ready for the extractor.—EDITOR.]—Gleanings.

## Surplus-Yielding Honey-Plants of Florida.

BY A. F. BROWN.

Unlike many of the Northern and Western States, Florida is divided into several distinct classes of soils, each affording a peculiar floral and timber growth of its own, therefore often from localities only a few miles apart one's surplus crop of honey comes from different sources.

The purpose of this article is to give a brief description of the honey-yielding plants, trees, and shrubs found on the several classes of soil, with data as to the time of year, quality and yield of surplus honey, as I am acquainted with them, from a bee-keeper's point of view.

The division of soils are commonly spoken of as "high pine land," "low flat woods," "high hammock" and "low hammock," "oak scrubs," "river swamps," and a "low-scrub palmetto barren" along the coast, also at places along the coast and Florida Keys—stretches of black mangrove swamps, and at places along the east coast and south Florida are open

prairies of a few hundred acres to several thousand acres in extent.

In my remarks I will take the divisions of soils in rotation, giving the names and a short description of the "surplus"-yielding plants, trees, etc.

THE HIGH PINE LANDS.

First comes the high pine lands. This is principally yellow pine timber and black-jack oak; it has but two native plants that give a surplus—yellow partridge pea and limeweed. The partridge pea is a small, bushy plant 24 to 36 inches high, and its much-spread yellow blossoms give a dark amber honey, yielding 50 to 60 pounds of honey per colony, from July 1 to October. (All yields spoken of are extracted honey.) The honey comes principally from glands at the base of the leaf, and the stems and joints.

Limeweed, defined by Dr. C. V. Riley as belonging to the clover family, looks similar to dog-fennel, grows 30 to 36 inches high, and has a small white blossom. It lasts from Sept. 25 to Oct. 15. It yields amber honey, 40 to 60 pounds per colony.

As fully one-half, if not more, of our orange groves are situated on the pine lands, I shall place the orange in this class. It blooms in February and March, yielding a very light amber honey, and frequently runs to 100 or 150 pounds per colony. I have known an average colony on "scales" to bring 7 to 10, or 12 up to 14 pounds per day from orange alone, and to keep this up for 10 to 14 days in succession. I have secured a crop of 10,000 pounds of pure orange honey in a single season, and I pronounce it one of our best surplus sources, second only to black mangrove in quality and yield.

THE LOW FLAT WOODS.

This is timbered sparsely with a stunted growth of yellow pine, and embraces many swamps and cypress ponds. Where there is much "swamp" there is generally found a good growth of gallberry and saw-palmetto, both of which, where the growth is rank and abundant, yield good crops of honey.

Gallberry is a small shrub 6 to 10 feet high, with small white blossoms, from March 15 to May, and yields 20 to 60 pounds of very choice white honey per colony, though the yield is uncertain.

Saw-palmetto, of the palm family (too well known to need a description), throws open its immensely large and fragrant blossoms in April and May, and yields 50 to 75 pounds of light amber honey per colony. This is a very reliable source for surplus.

In the swamps are found a good deal of soft maple and magnolia bay—the former yielding honey freely, but coming in January bees are too weak to take advantage of it, and it is used to build up the colonies for the gallberry and palmetto flows later on.

Cypress yields a large quantity of pollen in January and February, though but little if any honey.

Magnolia bay yields some dark honey, though not enough for surplus.

THE HIGH HAMMOCKS.

These, as a rule, are not large in extent, the growth being principally hardwood timber—oaks of the various kinds, with some hickory and magnolia, andromeda, loblolly bay and saw-palmetto, yellow jasmine and wild grape, affording a good spring and early summer pasturage, and giving from 100 to 150 pounds of surplus per colony. The larger share comes from andromeda and saw-palmetto.

Andromeda is a small, shrubby tree 10 to 20 feet high, with small, white, bell-shape blossoms. It blooms in February and March, and yields 50 to 60 or 75 pounds per colony, of dark amber honey. It is very reliable.

The various oaks afford more or less honey, and large quantities of pollen, but coming early it goes towards breeding up colonies.

Yellow jasmine blossoms Dec. 20 to March, and yields large quantities of pollen, and but little if any honey.

Magnolia, loblolly bay and wild grape come in April and May, and afford some little surplus, though coming at the same time as the saw-palmetto. I am not in position to state how much, or as to the quality of the yield.

THE LOW HAMMOCKS.

These are found principally bordering on the rivers and creeks, and also in vast stretches along the coast. The growth is principally hardwood timber and cabbage palmetto palms, and various vines, etc.—usually an excellent range for surplus honey. The growth of timber is very similar to the high hammock, with addition of the cabbage palmetto palm, various gums, ash and maple, and in places some basswood and youpon; also more wild grape and yellow jasmine than are found on the higher hammocks. From these various trees and shrubs the surplus crop will run from 100 to 200 pounds per colony.

Basswood throws open its blossoms early in June—about the 5th to the 10th, though the area of this is comparatively small.

Cabbage palmetto palm opens about July 1, and lasts till Aug. 5 or 10. It is not certain, but some years it gives a good crop of very light straw-colored honey; 50 to 100 pounds per colony. There are thousands of acres of this cabbage palmetto palm in our State; when it does yield, it makes quite a difference in our total output of surplus honey.

In the low hammocks the grape affords quite a little surplus honey in May, when colonies are strong; also sweet bay—a shrubby bush or small tree. This is especially so on the stretches of low hammock near the sea coast.

THE OAK SCRUBS.

Extensive area of this is found at various places throughout the State, and all along the East Coast and West Coast for long stretches. The usual growth is oak bushes, 10 to 20 feet high, and spruce pine, usually young sapling timber, yet at places there are heavy forests of spruce pine, which are generally spoken of as "spruce pine scrubs." In most scrubs both oak and spruce are found more or less a growth of andromeda. This and the oaks are the only surplus-yielding shrubs or plants worth mentioning, and as both come very early in the season, when colonies have not had time to build up strong, there is little encouragement for a bee-keeper to locate in such places, except where he is in reach of, or has access to, other classes of soils that may border on the "scrubs." The spruce pine timber yields vast quantities of pollen, an item worth jotting down in a bee-keepers' calendar.

THE RIVER SWAMPS.

The St. Johns river swamps are the only ones I am personally acquainted with. The growth of timber here is sweet gum, black gum, ash, soft maple, water oaks, cabbage palmetto palm, cypress, and in places some willow, with yellow jasmine, grape, bamboo and other vines. Gums and cypress largely predominate. These swamps are generally narrow stretches seldom more than a mile or so wide, and are bordered by saw-palmetto and gallberry, running back into pine lands, hammocks or scrubs, and consequently afford good locations, as a rule.

The river swamps in the northern and northwestern portion of the State afford the main surplus ranges there. They are somewhat different from the St. Johns river swamps. In the swamps of the northwestern portion of our State—take the Apalachicola river swamps, for instance—there are large amounts of tueplo gum, ti-ti, and snow vine, all of which afford good yields of surplus. I am told that the tueplo gum gives their main crop, coming in April. The ti-ti is found in large quantities all through southern Georgia, and around the big Okefenokee Swamp in the lower portion of that State and the northern part of this. In that section—the Okefenokee Swamp—the ti-ti—a small, bushy shrub or tree 10 to 20 feet high—yields their main surplus crop—a delicious white, nice-flavored honey, and the yield is 50 to 100 pounds per colony from the one source. It comes in March.

The scrub barrens along the coast vary from a quarter to a mile wide, the principal growth being saw-palmetto and a few oak bushes, with some sea grape, a small shrubby bush. This strip of saw-palmetto growth along the coast yields very abundantly, and the crop of surplus honey is as sure and certain as from any source I am acquainted with. The saw-palmetto is the only source there, except at a few places where there are stretches of black mangrove swamps along the inside rivers. May is the season for the palmetto here, and the crop is 60 to 100 pounds.

Black mangrove swamps are found at only two or three places on our East Coast, at a few places on the West Coast, and around the Florida Keys and the Ten Thousand Islands, and extreme southern portion of the Florida coast. Along the coast it is a small branching tree, 10 to 20 feet in hight, growing only in salt water marshes, and, as a rule, it is the only tree growth occupying the areas where it is found. On the Florida Keys and the Ten Thousand Islands it grows to be a large tree, 40 to 60 feet high. It bears a small, white blossom, opening June 10 to June 20, and lasting five or six weeks. The yield from this one source has been marvelous—from 300 to 400 pounds per colony for whole apiaries, the average yield being about 200 pounds per colony. The quality of the honey is good, and it is almost as clear as water, and fully as white as any honey produced anywhere. I have harvested 42,000 pounds of mangrove honey in one season from a trifle less than 200 colonies. In my immediate neigh-

borhood that year there was something like 400,000 pounds (200 tons) harvested. This variety of mangrove is very susceptible to cold, and in the big freeze of Feb. 8, 1895, most of that north of the Florida Keys was killed to the ground, and in places killed out, root and branch.

There are no black mangrove locations now to be found this side of the swamps of the Ten Thousand Islands, or on some of the Keys, and no one has ever had a big apiary in either of those places to test the yields there. There are thousands of acres of red, white and yellow mangrove along our coast and southern rivers, but none of these yield honey, and in fact belong to a distinct family from that of the black mangrove.

On the open prairies of the coast and South Florida grow thousands of acres of wild sunflowers and golden-rod, both of which furnish good yields of surplus honey in the fall. Of the golden-rod there are two species, both of a dwarf variety, growing about 15 inches to 2 feet high, one blooming in September and the other late in October, and runs into November. The wild sunflower is a rank-growing, branching plant, 6 to 10 feet high, with yellow blossoms, having a brown center, diameter of blossom 1¼ to 1½ inches. It blooms early in October, and lasts fully a month, furnishing a light-amber honey, and of good flavor. The yield is 50 to 75 pounds per colony.

Wild pennyroyal fields are found throughout South Florida, in the low flat woods, low scrubs and around swamps, creeks, and at places in the open prairie are large tracts of wild pennyroyal. This has yielded large crops in years past, but of late I know of no one who gets any large crops from it. It blossoms from Dec. 10 to March, having small purple blossoms, on a head similar to clover. The plant I would define as a bushy weed, 12 to 30 inches high, often of a creeping habit, especially when growing among the brush in among rank grass. The honey is very clear, and of a delicious flavor. I can give but one cause for it not giving the abundant yields of late years, as it has in the past. That is, for several years we have had a series of cold winters, with more or less rainy, raw days. As I remember, when the pennyroyal used to give good yields, our winters were, as a rule, warm, with much pleasant, sunny weather. I know that in places it has yielded as high as 100 to 150 pounds per colony, and I consider any plant that has in the past given such yields, will do so again when conditions are right, so I class it among our surplus scources.

Although I have gone into detail in the explanation of our various surplus sources, according to the divisions of soils they are found on, the subject is far from complete, and I hope that others who read, and are interested, will also add their experiences.

Volusia Co., Fla.

## Getting All the Honey in the Sections.

BY C. C. PARSONS.

In my efforts to produce comb honey I have observed that the same manipulation does not invariably produce the same result. For many years I tried to keep my bees from swarming, and those that would do as I wisht them to do, gave me a much more handsome profit than those that persisted in swarming.

As I stumbled along in the darkness, I kept my eyes open and occasionally a ray of light was thrown in, and a note of its revelation was made. I have ever been satisfied with the crop of comb honey, when I could get the bees to begin early in the sections placed upon a full brood-chamber, if they were kept well supplied with sections; but whenever they began to seal up the honey in the tops of the brood-frames before they began work in the sections, they would either swarm or fill the brood-chamber with honey and sulk through the season.

Those that swarm, if properly treated, are as good as the best of those that do not swarm; and these are the ones that I cause to store in the sections all the honey they get, after swarming.

Without entering into a discussion of plans, I will simply give the *modus operandi* as recorded in some of the most successful cases, and later on I may tell why such things were done in such a way.

The hives for these swarms are prepared in advance of the time they are needed, as follows: I place one empty comb between two empty frames (or frames filled with foundation) in one side of a hive, and beside them a queen-excluding division-board, and over these frames is also placed a queen-excluder. The rest of the hive is filled with wide frames full of sections. When a swarm issues, at the commencement of the harvest, if it be from a hive that already has a case of sections on it, the case of sections is removed to the new hive; if not, a new case is put on. I close the entrance except the part in front of the 3-frame apartment, remove the hive from which the swarm issued, put the new hive in its place, and hive the swarm in it. A few days later I shake some of the bees from the old hive into the new. When the harvest is over, you will find all the honey in the sections, and the three frames filled with brood.

It often happens that, should the honey be left on a few days after the honey-flow has ceased, the tier of sections next to the division-board will be cut down and made ready for the queen to begin, and partly filled with pollen; but beyond this I have never seen a particle of pollen, and of late years I place a comb there to receive this pollen.

A swarm that does not issue during a honey-flow should not be put into a hive arranged as above; neither can an artificial swarm, or transferred colony, be counted upon with that degree of certainty that characterizes the natural swarm.

Jefferson Co., Ala.

# CONVENTION PROCEEDINGS

## Proceedings of the Illinois State Bee-Keepers' Convention Held in Chicago, Nov. 18 and 19, 1896.

BY A SPECIAL BEE JOURNAL REPORTER.

[Continued from page 7.]

### PRESERVING COMB HONEY FROM MOTHS.

QUES. 12.—What is the best way to preserve comb honey from the moths, during summer?

Dr. Miller—How many think you need to do nothing? [Six.] How many think you need to do something? [One.] Which testimony will count the most? If the one can prove the honey will not be ruined by the worms, then the testimony of that one. Sometimes the minority is in the right. Then as to necessity; will someone give us a reason for the necessity, or reason for saying there is no necessity?

Mr. Baldridge—I never found any necessity for doing anything with comb honey, after it had been taken off the hive. In Wisconsin I ripen my honey by taking it off the hives and tiering it on top of the hives on a flat cover in the hot sun; I tier five to six supers high with a wire screen over the top and a board over that, with a space to let out the hot air, so it won't get too hot; it ripens very thoroughly without any bees; I never saw any worms in honey; I ripen hundreds of pounds on top of the hives in the hot sun; it would get hot, yet it was ventilated so it would not injure it; of course no one would think, unless, it was bee-keepers, but what the bees were in them.

Mr. Stone—Do you use excluders or bee-escapes?

Mr. Baldridge—The supers are taken off, the bees removed, and put on top of the cover, and left there for a month or two.

Mr. Stone—Then a cover is still on top of this?

Mr. Baldridge— There is a wire screen on top, and the cover raised up about an inch, so as to get it ventilated, and in case it should rain, it would not rain upon it.

Mr. Grabbe—I think Mr. Baldridge's plan may be a good one, but I don't think it is practical; I have had a great deal of honey taken from hives, taken right from the bees; one season I had $60 worth stolen, of comb honey. That is an exceptional locality where Mr. Baldridge is located, that he can tier it up on the hives, and it is safe.

Mr. Green—I think where a person keeps black bees, he will find worms in the comb honey occasionally; I used to find some. Also, through another reason, if there is pollen stored in sections you are liable to find worms, but at no other time; the bee-keeper who keeps Italian bees and is sufficiently free from pollen will not be troubled with moth-worms, I think.

Mr. Kennedy—I have had some trouble, not always, but when I have taken it off early in the season and stored it in the honey-house for several weeks or even a month; there

would be moths in it, that is, in summer. I know it is very discouraging when one has a nice lot of honey, to find in a month or two it is badly damaged. I agree with Mr. Green, that it is more liable to be damaged when there is pollen in the sections; that possibly that is the only time; but I think I have had it damaged when there was no pollen—at least that I could discover.

Dr. Miller—I believe I could take both sides of the question. I have had many and many a section where there was no pollen in it, good straight goods, full of honey, and at the lower edge attacht to the bottom-bar of the section directly would appear a little white dust, and after a little while the worms would be seen there, and if left alone the honey would be very badly damaged; I had to brimstone it, and more than once, too, or I would have suffered heavily if I had not done it. While this discussion was going on, I was turning over in my mind why it was, of late, I had so little trouble in that direction; I have used very little sulphur, and the damage by worms has not amounted to anything for three or four years; the last two years don't count at all, for I had no honey, but of late certainly there has been a difference; I suppose there is very little black blood in my bees now, but there was much before. How about your bees, Mr. Kennedy? How much black blood?

Mr. Kennedy—I should say about one-half, on the average.

Dr. Miller—I think very likely that may be the difference, for I know that formerly you could not have gotten me to allow a crop of honey to stand, without brimstoning it, unless you paid me a good amount of money; and I have some doubt whether I will brimstone any more.

A Member—I brimstone all of it in a room together, perhaps as much as once in two or three weeks at first, so as to make sure those hatching out would get the brimstone; for of course the egg would be left just as good as ever, but I believe if you have bees that are mainly of Italian blood you will not be troubled; at least I suppose that has made the change in mine.

Dr. Miller—There is very much more danger of worms in combs where there is pollen, and I can tell you another thing that makes danger: Let a dead bee be there, and you will find very often that dead bee will be the nest of one or two worms, and I have often seen the worm start where there was a dead bee, or remain on the dead bee for a time, and then extend through the section of honey; I think that is a fact, although I have never seen it mentioned.

Mr. Stone—I would like to ask where the moth's eggs are in the honey, after it is in the honey-house, if they were there before the honey was put into the honey-house. For, when my honey is once in the honey-house, I have never seen a moth-miller around the honey at all, and I have never been bothered with the honey-moth; it is my experience, when moths get in there, they make an effort the first thing to get outside, and they never seem to touch the honey or go near the section-cases that have the honey in.

### COMB HONEY MANAGEMENT—TIERING UP.

Ques. 13—Should bees be restricted to one super until well filled, or should we tier up and leave them on the whole season?

Dr. Miller—How many would leave all the sections on until the honey-flow ceases? [One.] How many would say, Take off sections as fast as the super is completed? [Eleven.] We have that pretty well settled, that the majority would not want to leave them on the whole season. The first part of the question, however, is not answered. Would you restrict bees to one super until well filled? Suppose I put on five supers to start with, is that correct?

Mr. Ellis—My practice long ago was to let them get well begun, in one super, about one-third to one-half, then immediately raise it; then if the upper one is not filled, (and colonies differ in that respect) when they get the other third or half done raise it, and put another under. It depends largely upon the size of the colonies. The greatest success I had was in the Champlain valley, New York, when I had as many as seven supers on at once. There were 30 pounds to the super, making a capacity of 210 pounds. That is the most I ever had; but it was an exception.

Dr. Miller—That question involves the other question, as to when supers shall be removed?

Mr. Ellis—My experience there was to remove as fast as filled—filled and sealed clear down.

Dr. Miller—Would you wait until every section is sealed efore removing?

A Member—I could not do that in the last of the season.

Dr. Miller—I would not be sure to do it in the first of the season, either. The looks has a great deal to do with it. If you want the honey very white, it should not be on a great while. The bees may finish up the very last cell before you take it off, but very often you will have in the four corner ones a few cells unsealed; I don't want to wait for that, to take off the super, and if necessary I return those four corner sections. So as long as people demand the white sections of honey we must be careful about leaving them on long. I was looking for some one to say there would be a good deal of difference between the first and last of the season. When the first super is one-third filled, in some cases I put a second super on, and on that same colony, later in the season, I would not put anything on, when it was about three-thirds filled. Your expectation as to the harvest: Like a good many other things in bee-keeping, you have to do a little guessing, and you can't always guess rightly. I have a good many times put on a single super to begin with, and then I had too much on for the whole season.

Mr. Baldridge—This is to he considered somewhat in putting on a number of supers: Would it not depend—whether you waited for your supers to be entirely filled—upon whether your sections are in wide frames, so you can remove them as soon as filled?

A Member—Remove section by section?

A Member—If the sections are filled completely, why not remove them, and give them additional room, without adding so many supers?

Dr. Miller—That you could do. It seems to me that if you got five or six supers on, those first raised up would not be so apt to be sealed as if there were fewer supers on; that is, the bees would not seal them so quickly, and consequently the honey would not be so white as if they were sealed up quickly. There is such a thing as getting too much room in supers.

Mr. Green—I think Mr. Baldridge is quite right, when you come to comb honey. I never saw any advantage in having over three supers on at one time, if those are properly lookt after. You must not forget this, that sometimes when one colony needs three to four supers, another colony right beside it would be entirely satisfied with one super.

Mr. Ellis—I want it understood that mine was partially an experiment; it was the only time I had more than four supers on, but I shaded the hive, ventilated it—opened all the ventilators, kept them open, and as fast as supers were occupied I gave them more. It was an exception right through; three to four supers were the rule that season.

### PRICE OF COMB HONEY VS. EXRTACTED.

Ques. 14—How much per pound should consumers pay for extracted honey of the same grade, when comb honey sells to the consumers at 22 cents per pound?

Dr. Miller—The question is, at what price per pound for extracted will you be willing to change from comb honey at 22 cents, to produce extracted honey? I will call for a price?

A Member—10 cents.

Mr. Green—11 cents.

Mr. McCartney—12½ cents.

Dr. Miller—Let us take the vote then, if there is no other price named. How many say 10 cents for extracted honey, when comb honey brings 22 cents? [One.] How many say 11 cents? [Four.] How many say 12½ cents. [Four.]

Mr. Baldridge—I will call your attention to the question. What is the question?

Dr. Miller—"When comb honey sells to comsumers at 22 cents per pound, how much per pound should consumers pay for extracted honey, of the same grade?" In other words, the question now is, What is that honey worth to me on my table?

Mr. Ellis—The same price.

Mr. York—The question is, what should consumers pay?

Mr. Cooley—How many ounces should there be in that comb honey—would it be a full pound section?

Dr. Miller—Yes, in this case it's supposed that a section is a pound, and it is 22 cents.

Mr. Baldridge—The question is, no matter what the price of comb honey, what should extracted be worth of the same grade, or value to the consumer, without any reference to the cost.

Mr. Ellis—I want to suggest looks and appearance on the table as a factor in the matter; it makes two questions of it; in one case, I want that to eat myself; in the other case, we are going to have company at our house, and I want my table to look nice.

Mr. Grabbe—I don't think we can say what the consumer should pay, he decides that for himself; very often, he pays something for looks, for style, not for actual, intrinsic value; we can't compel a man to pay for that; it is what he wants that he pays for.

A Member—I produce honey and I sell at the same price; there are so many people who take extracted honey of the

same quality in preference to the comb honey; many, many families use it in preference, why should they not pay the same price?

Mr. Chapman—I think it is merely a matter of choice; some people prefer to eat the extracted honey, and you could not sell them comb honey; intrinsically they are worth the same, but the extracted should be worth a little more.

A Member—And the most of the consumers don't get a pound when they buy the comb honey in sections, whereas when they buy extracted honey, they get a full pound, and I have a good many customers who are willing to pay equally the same price for extracted honey that they do for comb honey, and take it in preference.

Mr. McKenzie—There are some exceptions to that rule.

Dr. Miller—If I wanted it for my own use, and I pay 22 cents for comb, if the grade is the same, the same quality as if drained out of that section, I would be willing to pay 24 cents for extracted honey; but if for company, for appearances on the table, and I wanted a small amount of it bought, I am only willing to pay about 15 cents for the extracted.

Mr. Baldridge—There is a good deal in the question, when it is fairly and fully analyzed. It is immaterial, for that matter, what it costs the bee-keeper to produce it; the simple question is, what can consumers afford to pay for it compared to the price of comb honey? My experience is, as a dealer with comsumers—and I have had about 30 years of it—that the majority of consumers are willing to pay as much, if not a little more, for the extracted honey than for the comb honey, when it is properly presented to them; and my business has been to carry that into practical operation, and I have been able, by taking that view of the matter, all through this experience to get as much for five pounds of extracted honey as I could get for six pounds of comb honey, including of course the wood; one is sold at net weight and the other gross, and my sales are all based upon that idea, that a pound of extracted of honey is worth more to the consumer in general than a pound of comb honey; and that it is not his business to know what it costs me to produce it, no more than it is the business of the consumer of butter to know what it costs the farmer to produce his butter. If one farmer can produce his butter at 10 cents per pound, and it costs another 15 cents, it is none of the consumer's business whether that farmer who produces it at 10 cents asks 20 cents, the same as the other man; it is the producer's business to get a good price for what he has to sell; the result is, that I got right along, year after year, as much for five pounds of extracted honey as I got for six pounds of comb honey, including the wood. Now, I say it should sell at least at the same price, that is, the consumers should pay the same price. A year ago, I advocated that idea, and the bee-keepers in the vicinity where I live thought it could not be done, but I demonstrated to their entire satisfaction that it could be done, by trying a small town down in Kane county as an experiment. I canvast the town from house to house with a sample of each—a sample of section honey and a sample of extracted. I secured in that town in three days time 70 orders—as my order-book would show if I had it here—and out of that number—but to go back a trifle. I put the price the same—five pounds each at an even dollar, which was lower than my general price. I secured but three orders in that little town out of 70 for comb honey—67 were for extracted at one dollar, and three for comb; so I found the consumer was willing to pay just as much for the extracted honey, pound for pound, net weight, as for the comb honey.

### BI-SULPHIDE OF CARBON FOR KILLING WORMS.

Ques. 15—Has any one had any experience in the use of bi-sulphide of carbon, instead of sulphur for killing worms?

Mr. Chapman—It is one of the best methods of killing any kind of moth-worms, or common house moth-worms, or any kind of insects that might get in a closed room. It is very simply applied, and a pint bottle would fill a room full of the fumes of the gas, which is always heavier than the air, so in a room 20x20 feet a pint bottle would kill every moth or every grub in the room.

Dr. Miller—Would it kill those in the top of the room?

Mr. Chapman—Not unless the liquid is placed in the top of the room, so that the fumes would reach that part.

Dr. Miller—How would you apply it?

Mr. Chapman—It would have to be used carefully on account of its explosive qualities. It is sufficient merely to put it on a sponge or a bunch of old rags, place it close to and above what you wish to have fumigated—not below it. It does no damage whatever to the appearance of any substance that I used it on. It is merely a gas, and does not change or affect the color of anything upon which it is used. You must not have any fire near it, as it is a very dangerous explosive. When you pour it on the sponge, shut up the room and travel away as fast as you can. It also will kill ground squirrels and moles, by just placing a small cloth or rag near the hole, and because it is close to the place where the animal is it necesarily kills. This drug has been known for a long time, and it can profitably take the place of sulphur; I would say it is very reasonable in price; it is as low as 15 cents for a pint, and a pint would be sufficient for a room 20x20 feet.

Mr. Perlam—Bi-sulphide of carbon will kill anything that has life that you want to kill; it will kill a man; we don't want to kill men or animals, but all insects or vermin, rats, mice, gophers, or anything that burrows into the ground, and there is only one thing against it, and that is, that you must not bring a light near the fumes—it is explosive. Now in a room, or between the walls you have to saturate the whole place, or else you can't kill mice above ground; under ground it is very easy to kill them. If the house is shut up entirely, it will kill every mouse in the house, if it is shut up carefully and there is enough of it used. Every bee-keeper raises more or less grain, and now if you have weevil of any kind, any little thing that works in grain—if you take the bin that the weevil is in, and saturate the top of that bin of grain, or the warehouse, I don't care how extensive it is, it will kill every weevil or insect in that grain, and it has this peculiar effect, that it does not injure any substance that it touches, no more than gasoline, for instance

Mr. Stone—Its use was recommended in our Second Annual Report, and it was taken from some one's recommendation. I believe in Nebraska it was used for the extermination of prairie-dogs.

### HONEY-PRODUCTION IN THE PECOS VALLEY.

Ques. 16—What do the members know of honey-production in the Pecos River Valley, New Mexico?

Mr. Baldridge—I don't know very much about the Pecos Valley, except this: I know it is a very good honey locality, the same as I know Salt River Valley, Arizona, is a first-class honey locality; they have the same seasons in the Pecos Valley that they have in the Salt River; it is near a market, which is quite a consideration. Pecos Valley is a tract 100 miles in length along the Pecos River, where they have a great abundance of water; it is 15 to 20 miles wide, and an immense amount of alfalfa is grown there, probably as fine an alfalfa country as there is in the United States, if not superior to any other locality.

### A CHICAGO POLITICIAN AS A BEE-KEEPER.

Mr. York—We have with us one of our County Commissioners—Mr. Cunning. He is a bee-keeper—I suppose he is a very "Cunning" bee-keeper. I don't know how much honey he produces, but I think we would like to hear from him.

Mr. Cunning—As one of the County officers, I am glad to welcome you to Chicago. So far as being a practical bee-keeper or a great producer of honey, I will have to say I am in the bee-business for pleasure. For years, I have wanted to make a study of the bee. When I was a boy, I was very much interested in the bee. I have four colonies in my back yard, which is only about 25x30 feet, so you see I have a very small space for the bees. I had two colonies to start with, last spring; now I have four. I lost one swarm—it got away. I hived it all right twice, and finally it left. The others I had no trouble with. Last year I had four swarms from two colonies, and I had no trouble with them at all. I have this year about 100 pounds of honey; some I have not taken out yet—I don't need it. I judge this honey comes from the prairies west of Douglas Park and Western avenue. I know there is a great deal of sweet clover around there; it is very fine honey. I find a great deal ot pleasure right here in Chicago in taking care of these bees, tho of course I have a very poor place for them. When they swarm, they generally go over into an alley, or alight on the wagons, or up on the roofs of the houses, or on a board sticking out, or something of the kind. Of course, I am a little of a politician, and it makes quite a good deal amusement for the neighborhood. They all come out when they hear my bees are swarming. I don't know whether they think I have any scheme in keeping bees, or not. There was a city newspaper reporter that came to my house a few months ago. He had heard all about my bees and wanted to write them up. He wrote an article, tho he never saw a bee before in his life—and he made a very good story. After that, I heard of people coming to the County Board, wanting to go into the bee-business. Quite a few people came who thought they could keep bees in their backyard, and make a little money out of it. People came from the South Side, North Side, and different portions of the West Side, but at just that time we were having politics pretty lively here, and I was engaged in the campaign, and I did not have time to answer all of those people; I told them I would write them, and tell them all about it! [Laughter.]

(*Continued next week.*)

would be moths in it, that is, in summer. I know it is very discouraging when one has a nice lot of honey, to find in a month or two it is badly damaged. I agree with Mr. Green, that it is more liable to be damaged when there is pollen in the sections; that possibly that is the only time; but I think I have had it damaged when there was no pollen—at least that I could discover.

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Mr. Kennedy—I should say about one-half, on the average.

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A Member—Remove section by section?

A Member—If the sections are filled completely, why not remove them, and give them additional room, without adding so many supers?

Dr. Miller—That you could do. It seems to me that if you got five or six supers on, those first raised up would not be so apt to be sealed as if there were fewer supers on; that is, the bees would not seal them so quickly, and consequently the honey would not be so white as if they were sealed up quickly. There is such a thing as getting too much room in supers.

Mr. Green—I think Mr. Baldridge is quite right, when you come to comb honey. I never saw any advantage in having over three supers on at one time, if those are properly lookt after. You must not forget this, that sometimes when one colony needs three to four supers, another colony right beside it would be entirely satisfied with one super.

Mr. Ellis—I want it understood that mine was partially an experiment; it was the only time I had more than four supers on, but I shaded the hive, ventilated it—opened all the ventilators, kept them open, and as fast as supers were occupied I gave them more. It was an exception right through; three to four supers were the rule that season.

### PRICE OF COMB HONEY VS. EXTRACTED.

QUES. 14—How much per pound should consumers pay for extracted honey of the same grade, when comb honey sells to the consumers at 22 cents per pound?

Dr. Miller—The question is, at what price per pound for extracted will you be willing to change from comb honey at 22 cents, to produce extracted honey? I will call for a price?

A Member—10 cents.

Mr. Green—11 cents.

Mr. McCartney—12½ cents.

Dr. Miller—Let us take the vote then, if there is no other price named. How many say 10 cents for extracted honey, when comb honey brings 22 cents? [One.] How many say 11 cents? [Four.] How many say 12½ cents. [Four.]

Mr. Baldridge—I will call your attention to the question. What is the question?

Dr. Miller—"When comb honey sells to comsumers at 22 cents per pound, how much per pound should consumers pay for extracted honey, of the same grade?" In other words, the question now is, What is that honey worth to me on my table?

Mr. Ellis—The same price.

Mr. York—The question is, what should consumers pay?

Mr. Cooley—How many ounces should there be in that comb honey—would it be a full pound section?

Dr. Miller—Yes, in this case it's supposed that a section is a pound, and it is 22 cents.

Mr. Baldridge—The question is, no matter what the price of comb honey, what should extracted be worth of the same grade, or value to the consumer, without any reference to the cost.

Mr. Ellis—I want to suggest looks and appearance on the table as a factor in the matter; it makes two questions of it; in one case, I want that to eat myself; in the other case, we are going to have company at our house, and I want my table to look nice.

Mr. Grabbe—I don't think we can say what the consumer should pay, he decides that for himself; very often, he pays something for looks, for style, not for actual, intrinsic value; we can't compel a man to pay for that; it is what he wants that he pays for.

A Member—I produce honey and I sell at the same price; there are so many people who take extracted honey of the

same quality in preference to the comb honey; many, many families use it in preference, why should they not pay the same price?

Mr. Chapman—I think it is merely a matter of choice; some people prefer to eat the extracted honey, and you could not sell them comb honey; intrinsically they are worth the same, but the extracted should be worth a little more.

A Member—And the most of the consumers don't get a pound when they buy the comb honey in sections, whereas when they buy extracted honey, they get a full pound, and I have a good many customers who are willing to pay equally the same price for extracted honey that they do for comb honey, and take it in preference.

Mr. McKenzie—There are some exceptions to that rule.

Dr. Miller—If I wanted it for my own use, and I pay 22 cents for comb, if the grade is the same, the same quality as if drained out of that section, I would be willing to pay 24 cents for extracted honey; but if for company, for appearances on the table, and I wanted a small amount of it bought, I am only willing to pay about 15 cents for the extracted.

Mr. Baldridge—There is a good deal in the question, when it is fairly and fully analyzed. It is immaterial, for that matter, what it costs the bee-keeper to produce it; the simple question is, what can consumers afford to pay for it compared to the price of comb honey? My experience is, as a dealer with consumers—and I have had about 30 years of it—that the majority of consumers are willing to pay as much, if not a little more, for the extracted honey than for the comb honey, when it is properly presented to them; and my business has been to carry that into practical operation, and I have been able, by taking that view of the matter, all through this experience to get as much for five pounds of extracted honey as I could get for six pounds of comb honey, including of course the wood; one is sold at net weight and the other gross, and my sales are all based upon that idea, that a pound of extracted of honey is worth more to the consumer in general than a pound of comb honey; and that it is not his business to know what it costs me to produce it, no more than it is the business of the consumer of butter to know what it costs the farmer to produce his butter. If one farmer can produce his butter at 10 cents per pound, and it costs another 15 cents, it is none of the consumer's business whether that farmer who produces it at 10 cents asks 20 cents, the same as the other man; it is the producer's business to get a good price for what he has to sell; the result is, that I got right along, year after year, as much for five pounds of extracted honey as I got for six pounds of comb honey, including the wood. Now, I say it should sell at least at the same price, that is, the consumers should pay the same price. A year ago, I advocated that idea, and the bee-keepers in the vicinity where I live thought it could not be done, but I demonstrated to their entire satisfaction that it could be done, by trying a small town down in Kane county as an experiment. I canvast the town from house to house with a sample of each—a sample of section honey and a sample of extracted. I secured in that town in three days time 70 orders—as my order-book would show if I had it here—and out of that number—but to go back a trifle. I put the price the same—five pounds each at an even dollar, which was lower than my general price. I secured but three orders in that little town out of 70 for comb honey—67 were for extracted at one dollar, and three for comb; so I found the consumer was willing to pay just as much for the extracted honey, pound for pound, net weight, as for the comb honey.

### BI-SULPHIDE OF CARBON FOR KILLING WORMS.

Ques. 15—Has any one had any experience in the use of bi-sulphide of carbon, instead of sulphur for killing worms?

Mr. Chapman—It is one of the best methods of killing any kind of moth-worms, or common house moth-worms, or any kind of insects that might get in a closed room. It is very simply applied, and a pint bottle would fill a room full of the fumes of the gas, which is always heavier than the air, so in a room 20x20 feet a pint bottle would kill every moth or every grub in the room.

Dr. Miller—Would it kill those in the top of the room?

Mr. Chapman—Not unless the liquid is placed in the top of the room, so that the fumes would reach that part.

Dr. Miller—How would you apply it?

Mr. Chapman—It would have to be used carefully on account of its explosive qualities. It is sufficient merely to put it on a sponge or a bunch of old rags, place it close to and above what you wish to have fumigated—not below it. It does no damage whatever to the appearance of any substance that I used it on. It is merely a gas, and does not change or affect the color of anything upon which it is used. You must not have any fire near it, as it is a very dangerous explosive. When you pour it on the sponge, shut up the room and travel away as fast as you can. It also will kill ground squirrels and moles, by just placing a small cloth or rag near the hole, and because it is close to the place where the animal is it necesarily kills. This drug has been known for a long time, and it can profitably take the place of sulphur; I would say it is very reasonable in price; it is as low as 15 cents for a pint, and a pint would be sufficient for a room 20x20 feet.

Mr. Periam—Bi-sulphide of carbon will kill anything that has life that you want to kill; it will kill a man; we don't want to kill men or animals, but all insects or vermin, rats, mice, gophers, or anything that burrows into the ground, and there is only one thing against it, and that is, that you must not bring a light near the fumes—it is explosive. Now in a room, or between the walls you have to saturate the whole place, or else you can't kill mice above ground; under ground it is very easy to kill them. If the house is shut up entirely, it will kill every mouse in the house, if it is shut up carefully and there is enough of it used. Every bee-keeper raises more or less grain, and now if you have weevil of any kind, any little thing that works in grain—if you take the bin that the weevil is in, and saturate the top of that bin of grain, or the warehouse, I don't care how extensive it is, it will kill every weevil or insect in that grain, and it has this peculiar effect, that it does not injure any substance that it touches, no more than gasoline, for instance

Mr. Stone—Its use was recommended in our Second Annual Report, and it was taken from some one's recommendation. I believe in Nebraska it was used for the extermination of prairie-dogs.

### HONEY-PRODUCTION IN THE PECOS VALLEY.

Ques. 16—What do the members know of honey-production in the Pecos River Valley, New Mexico?

Mr. Baldridge—I don't know very much about the Pecos Valley, except this: I know it is a very good honey locality, the same as I know Salt River Valley, Arizona, is a first-class honey locality; they have the same seasons in the Pecos Valley that they have in the Salt River; it is near a market, which is quite a consideration. Pecos Valley is a tract 100 miles in length along the Pecos River, where they have a great abundance of water; it is 15 to 20 miles wide, and an immense amount of alfalfa is grown there, probably as fine an alfalfa country as there is in the United States, if not superior to any other locality.

### A CHICAGO POLITICIAN AS A BEE-KEEPER.

Mr. York—We have with us one of our County Commissioners—Mr. Cunning. He is a bee-keeper—I suppose he is a very "Cunning" bee-keeper. I don't know how much honey he produces, but I think we would like to hear from him.

Mr. Cunning—As one of the County officers, I am glad to welcome you to Chicago. So far as being a practical bee-keeper or a great producer of honey, I will have to say I am in the bee-business for pleasure. For years, I have wanted to make a study of the bee. When I was a boy, I was very much interested in the bee. I have four colonies in my back yard, which is only about 25x30 feet, so you see I have a very small space for the bees. I had two colonies to start with, last spring; now I have four. I lost one swarm—it got away. I hived it all right twice, and finally it left. The others I had no trouble with. Last year I had four swarms from two colonies, and I had no trouble with them at all. I have this year about 100 pounds of honey; some I have not taken out yet—I don't need it. I judge this honey comes from the prairies west of Douglas Park and Western avenue. I know there is a great deal of sweet clover around there; it is very fine honey. I find a great deal of pleasure right here in Chicago in taking care of these bees, tho of course I have a very poor place for them. When they swarm, they generally go over into an alley, or alight on the wagons, or up on the roofs of the houses, or on a board sticking out, or something of the kind. Of course, I am a little of a politician, and it makes quite a good deal amusement for the neighborhood. They all come out when they hear my bees are swarming. I don't know whether they think I have any scheme in keeping bees, or not. There was a city newspaper reporter that came to my house a few months ago. He had heard all about my bees and wanted to write them up. He wrote an article, tho he never saw a bee before in his life—and he made a very good story. After that, I heard of people coming to the County Board, wanting to go into the bee-business. Quite a few people came who thought they could keep bees in their backyard, and make a little money out of it. People came from the South Side, North Side, and different portions of the West Side, but at just that time we were having politics pretty lively here, and I was engaged in the campaign, and I did not have time to answer all of those people; I told them I would write them, and tell them all about it! [Laughter.]

(*Continued next week.*)

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# Editorial Comments.

**Our Advertisers,** we have every reason to believe, are all worthy of the patronage of our readers. We do not intend to permit any other kind to get into our advertising columns. Hence we invite you all to patronize them, and thus do what you can to encourage honorable dealers. We do not endorse those who advertise in other bee-papers, unless they be such as are also found in the Bee Journal. We say this for the reason that some have complained to us, and unjustly, for advertising for firms we did not advertise for. We *try* to be extremely careful about admitting advertisers into our columns, but should any of our readers be dealt with unfairly by any of them, we trust they will report to us at once. We won't knowingly advertise for dishonest firms, and we shall consider it a great favor to be informed concerning any unsavory deals made by our advertisers. We are extremely anxious to help kill out all frauds who scheme to fatten upon the hard-working and economical bee-keepers. That's a part of our work.

**A Sweet Clover Lawsuit.**—It seems there is now a case in the common pleas court of Delaware, Ohio, wherein will be decided whether or not any officials have the right to destroy sweet clover when growing upon private property. Dr. H. Besse, an old reader of the American Bee Journal, is the plaintiff in the case, and the township trustees of Delaware are the defendants. The Gazette—a local newspaper—contained the following in its issue of Dec. 29, 1896:

A damage suit was filed in the common pleas court last Saturday night, that grows out of a strange circumstance. Dr. Henry Besse, one of the best known apiarists in this country, seeks to secure damages in the sum of $3,210 for the cutting down of a clover crop upon which his 97 colonies of bees depended for food for the winter. The defendants in the case are the members of the board of township trustees of Brown township—Messrs. Lyman P. McMaster, James Salmon and Joseph B. Glenn.

The petition is a long one, and recites that the plaintiff is in the bee-business, and owned a plat of ground of 4½ acres, upon which he planted melilotus, or sweet clover, and while the growth was in full bloom the defendants cut it down; and as the result, his 97 colonies of bees were "idle," which otherwise would be "working" and bringing him in a profit in his business, so it is alleged.

We are informed that there was a law that once prohibited the cultivating of this clover, and the defendants thinking that it was still in force, took it upon themselves to get the sweet clover cut down, hence the suit for the recovery of money alleged to have been lost by the transaction. The matter will be fought to the end. All parties to the trouble are well known residents.

This will be an interesting case. It is not now known exactly, writes Dr. Besse, when it will be brought to trial, as there are several important cases ahead of it. But it will likely be very soon.

Dr. Besse, in giving us the particulars of the matter, says:

I had a fine field of sweet clover in full bloom when the trustees of my township served notice on me to cut it down and destroy it, as a noxious weed, which I refused to do. They then came with 12 men and a mowing machine and destroyed all that I had growing on our farm, and also on an adjoining farm, the owner of which had given me the privilege of sowing the same. Since then I have employed an attorney to look into the case, and he finds that the law classing sweet clover with noxious weeds was repealed in our State (Ohio) last winter, and melilot, or sweet clover, is not mentioned in the list of weeds to be destroyed by the farmers of Ohio. This I trust will be good news to all Ohio bee-keepers at least, if not to the whole fraternity who read it.

Now I have commenced suit against the trustees in our court for damages, and shall prosecute it.

I am a bee-keeper of 60 years' experience, having commenced when 15 years old. H. BESSE.

Before entering the suit, it seems that Dr. Besse, being a member of the National Bee-Keepers' Union, applied to the General Manager for directions as to what he should do. After some time, he was informed that the Advisory Board were divided in their opinion, and had come to no conclusion. After that, Dr. Besse's attorney wrote several letters to the Union, but says he received no reply thereto.

Now, it seems to us that if ever there was a case that the Union should undertake, it is this very one—where it would seem such an easy matter to win. It would establish a very valuable precedent, and raise the Union several notches in the estimation of the bee-keeping world. Of course, we suppose some of the able Advisory Board had good reasons for deciding against the Union's aiding Dr. Besse, or they would have favored it.

In our next number we expect to have something interesting on this very subject of sweet clover as a noxious weed. It was fully discussed at the late Chicago convention, and will be found in the report which is now appearing in these columns. We shall also keep our readers informed regarding the progress of Dr. Besse's suit, as all will be greatly interested in the final court decision.

**Questions About the Two Unions.**—Mr. E. S. Miles, of Crawford Co., Iowa, sends to us some questions regarding amalgamation, etc., which he would like to have answered, and as they will no doubt interest others, we give them here, taking the liberty to attempt to furnish the information sought. Here is what Mr. Miles writes:

MR. EDITOR:—I am watching the progress of the United States Bee-Keepers' Union with interest, and my dollar is ready to go in if it gets to running all right.

1. If I should join the National Bee-Keepers' Union, would I be entitled to a vote on the adoption of the New Constitution?

2. If it failed to carry, "where would I be at?"

3. There is some doubt in my mind as to who is to be the President, Vice-President and Secretary of the new organization. If the officers of the National Bee-Keepers' Union are to constitute the Board of Directors of the United States Bee-Keepers' Union (see Art. IV., Sec. 2 of the New Constitution), and the officers elected at the Lincoln meeting of the North American Bee-Keepers' Association are to become members only (see Art. III., Sec 2) of the New Union, where are the President, Vice-President, Secretary and General Manager coming from? I cannot see any provision in the New Constitution for their election this year; nor can I see how the members of the old Union can elect officers for the new?

4. Did the old North American Association die when the new Union was born? If so, why did they elect officers and fix the place of meeting again?

I have not intended this for a criticism at all, but am merely hunting for information. E. S. MILES.

We number our replies to correspond with those above:

1. Yes, if you are not now a member of the Union, and if done so as to get your vote in before Feb. 1, 1897. Send your dollar at once to the General Manager—Thos. G. Newman, Station B, San Francisco, Calif.—who will then forward you a blank ballot to use in voting. We presume, however, that your vote, written upon any kind of paper, and sent with the dollar in time to reach Mr. Newman before Feb. 1, will be counted all right.

2. If the New Constitution fails of adoption by the old Union this month, you would be a member of the old Union, working under its present Constitution. It would take another dollar to become a member of the new Union, and gain the advantages proposed by its Constitution. This is just where we, and others, have claimed—that there is no need of two national organizations in the interest of bee-keepers.

2. We believe the understanding at Lincoln was, that the officers elected there as President, Vice-President and Secretary, will fill those respective offices in the United States Bee-Keepers' Union, whether the amalgamation takes place or not; and the New Constitution says very clearly that those who are officers of the old Union when amalgamation takes place, are to be the officers of the new, until the election in the following December—which would be next December, if by the votes of the old Union the two societies are declared to be united, Feb. 1, 1897.

We might say here, that according to the Constitution of the North American Bee-Keepers' Association in force at the Lincoln convention, the officers elected there would not enter upon their duties until Jan. 1 of the following year—which was the first day of this very month.

4. Yes, and no. Our understanding of the matter was, that the old North American Bee-Keepers' Association should be in existence until it was decided by the old Union (this month) whether it would favor amalgamation. If it does not so favor, then our interpretation of the feeling at the Lincoln convention would be, that the new Union is to go ahead, elect its Board of Directors, and begin to do business under the New Constitution. It already has its Executive Committee, which could send out ballots to its 60 or 70 members, and get things in working order very quickly.

But we are fully expecting the success of the present amalgamation proposition, by the adoption of the New Constitution by the old Union this month, when afterward we can all labor together for the upbuilding of the grandest bee-organization this country ever knew.

# The Weekly Budget.

PROF. A. J. COOK, writing from Los Angeles county, Calif., Jan. 2, said: "We have had another nice rain. I think prospects for 1897 are fine."

MR. WALTER S. POUDER, of Indiana—a reliable bee-supply dealer who advertises regularly in the Bee Journal—wrote us Jan. 2: "I am building hopes on 1897 being a prosperous year. Indiana is covered with a carpet of white clover, which will bloom this year."

MR. THOS. G. NEWMAN has removed from San Diego, Calif., to Station B, San Francisco, Calif., where all his correspondents will now address him. Mr. Newman reports that the health of Mrs. Newman "is now vastly improved" since residing in San Diego. This all will be pleased to learn. We wish Mr. Newman much prosperity in his new home.

MR. GEO. W. BRODBECK, of Los Angeles, Calif., in a letter dated Dec. 30, wrote us as follows:

"The prospect for the coming year to the bee-keeper is very promising, for our winter rains thus far have been all that could be desired. As an absolute assurance, tho, there must be late spring rains, and the moisture must penetrate to a depth of 5 or 6 feet. Then, again, localities vary, due to soil and distance from the ocean. The difference in climatic condition and rain precipitation within a scope of 30 miles, and even less, is really wonderful. For instance, when Prof. Cook recently reported a rainfall at Claremont (this county) of 5 inches, the amount here was less than 2 inches. Thus you see that a report favorable or unfavorable from one section does not indicate the general condition of things in this State."

REV. E. R. HARDY, of Buffalo, N. Y., recently contributed two articles on bee-keeping to the illustrated Buffalo Express. Gleanings said, in referring to them: "The pictures are half-tone reproductions from real life, and a cursory reading of the articles seem to show that Mr. Hardy is well up on the subject." We can't have too many such articles, for the general public is not very familiar with bees and their habits. But we believe that articles on honey and its use as food would be more beneficial, both to the public and to bee-keepers.

MR. O. L. HERSHISER, of Buffalo, N. Y., writes us that he is very much gratified to learn that the United States Bee-Keepers' Union will hold its 1897 convention in Buffalo. He says that he will "try in every way to make it a great success." That was one reason why Buffalo was selected, we believe. All expected that Mr. Hershiser would be a good man to work for a successful meeting, and there is no doubt about those expectations being realized. Mr. H. knows how to do it.

MR. R. A. BURNETT, of this city, upon receiving the Bee Journal for Jan. 7, wrote us:

"Rather spicy reading in the American Bee Journal of this date. I trust that only good may be the result."

We thought Mr. Burnett would be interested in the first number for 1897. There was quite a good deal in it concerning a certain kind of commission-men. But Mr. Burnett is not one of the kind that deserves denunciation. He, rather, is entitled to a big slice of encouragement on account of upright dealing.

MR. R. F. HOLTERMANN, editor of the Canadian Bee Journal, writes us this concerning the Toronto convention, held Dec. 9 and 10, 1896:

"We had the best meeting of the Ontario Bee-Keepers' Association we have had for years. The Minister of Agriculture was there and gave an address."

We are glad to hear of the successful gathering. There should be no good reason why each succeeding meeting of any association should not be "the best meeting." If it isn't, some one is nearly always to blame therefor.

DR. MILLER writes us Jan. 5, about a very sudden change in temperature at Marengo, Ill. He said:

"For two or three days the thermometer remained steadily at 55°, day and night. Last evening it began to change, and this morning it was 14° above O."

We had a similar change here in Chicago at the same time. For two or three days it rained steadily, then the evening of the 4th it began to turn colder, and the morning of the 5th it was frozen solid. Since then it has been nice winter weather, with some snow. 'Tis still pleasant to-day—Jan. 7.

MR. G. K. HUBBARD, who went from Ft. Wayne, Ind., to California with his invalid wife two or three years ago, reports that "she has lately been much better than at any time in the last year," and that they will likely remain permanently in California. We are glad to learn of the improvement in Mrs. Hubbard's health, and we trust she may fully recover.

Mr. Hubbard also informs us that he has just sold to The A. I. Root Co. the good-will and entire right for the patent for the machine for putting together one-piece sections, known to bee-keepers as the "Hubbard Section-Press," as he is unable to give his attention to its manufacture.

MR. R. C. AIKIN, who contributes a valuable article to this number of the Bee Journal, is now writing a series of articles for Gleanings under the heading of "Ridgepole Musings." The rather toplofty first half of the name was suggested, we believe, from the fact that for several years Mr. Aikin kept bees in Colorado, several thousand feet above sea-level—on the very "Ridgepole" of the continent; and he is now in Iowa, where he is indulging in the "Musings" part of the heading. Judging from the first installment, the "Polings" of this new "Ridge Muse" will cause an "Aikin" (achin') for more of the same kind, on the part of those who "R. C.-ing" what he has to say.

# Questions and Answers

CONDUCTED BY

*DR. C. C. MILLER, MARENGO, ILL.*

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

## Foundation in Sections.

1. Does it pay to use full sheets of foundation in sections?
2. Can I fasten the foundation in better with the foundation fastener? SUBSCRIBER.

ANSWERS.—1. I think most bee-keepers are agreed in thinking so. Nothing tells more strongly that a man believes in such things than what he does. I put full starters in all my sections.

2. Yes, better and faster.

## Hiving Swarms on Frames Full of Comb.

We have been hiving our first swarms of bees on frames with only starters, in the 8-frame brood-nest, and immediately putting on sufficient supers. But now we have plenty of frames the Langstroth size filled with good brood-comb that would be desirable to use, instead of new frames How can I use those old frames, and get the bees to go into the supers as readily as by the Doolittle method above indicated?

H. R. W.

ANSWER.—Perhaps you can accomplish your purpose by hiving the swarms on so small a number of frames that the bees will be to some extent forced to enter the supers to get all the room they need. Say give them four or five brood-combs when first hived, then ten days or two weeks later give the remainder. Dummies may occupy the vacant space till the full number of combs is given.

## Producing Comb Honey—Leveling Comb in Sections.

I have 5 colonies in 8-frame dovetailed hives, and run exclusively for comb honey in one-pound sections. I want the honey for home use only. I keep all my queens' wings clipt.

1. How can I produce the most comb honey in one-pound sections, and get no increase of bees?
2. Can I get as much honey without the use of separators as I can with them? Remember, I only want the honey for home consumption.
3. I have some sections that I put starters of foundation in last summer, and the bees drew it out ready to put honey in them, but failed to do so. Will they be all right to put honey in next season?
4. How are combs leveled down? Is it necessary for me to level them? If so, what is the cheapest and speediest way to do it? J. S. F.

ANSWERS.—1. That's a pretty hard question to answer, and all would not agree as to the best way. John F. Gates has a way that he says works well in his hands. He has strong colonies that he calls "breeders," in large hives. These are box-hives, and from them no honey is ever expected. They are simply kept to produce strong swarms, and when the swarm issues the breeder is set in a new place and allowed to build up so as to be strong for swarming the next year. The swarm is hived on the old stand in a small hive, allowed to store all the honey in sections possible, and in the fall disposed of in some way—perhaps by uniting with one of the breeders—and the combs of the small hives melted up so the hives can be used again the next year.

Another way would be to proceed in much the same way with frame hives, uniting to the desired number in fall or the following spring.

2. It is generally believed that the use of separators makes no difference in the amount of honey obtained, altho it might be a hard thing to find any positive proof either way.

3. That depends upon the condition of the sections. If some honey was stored in them, and some of it allowed to remain through the winter, the honey will be granulated, and some of the grains being left in the cells when the bees fill them the new honey will be somewhat injured by the granulations. If, however, all the honey is cleaned out of the sections *by the bees* before it granulates in the fall, then the sections will be all right to use again, providing of course that they are all right otherwise. If allowed to stay on the hive after the harvest closes, the bees are likely to spoil them more or less by daubing bee-glue on the combs.

4. There is probably no better way than to use "Taylor's Handy Comb Leveler." It does the work so well and so rapidly that it would pay to buy one rather than to try to do it by any other way I know of.

## Chaff-Hive Questions—Longevity of Bees.

1. What are the merits and demerits of the chaff hive?
2. How thick should the wall of a chaff hive be? I intend to make mine 4 inches.
3. Will an entrance ⅜x16 inches give sufficient ventilation for a chaff hive in the summer, and ⅜x4 in the winter?
4. During severe cold weather will frost and sweat accumulate in the chaff hive?
5. Don't you think buckwheat chaff would be extra-good to pack chaff hives? for no rain or snow can penetrate it; neither will it draw damp.
6. How much more honey will a colony consume in a single-wall hive during winter, than a colony of equal strength in a chaff hive?
7. What strain of bees live the longest?

B. T. S., Fellowsville, W. Va.

ANSWERS.—1. I doubt if I know enough to answer that question fully, and if I did, the answer might take up more room than could be allowed. A chief advantage is that sudden changes of temperature are less felt, and the bees are warmer than in single-walled hives. Some say it's a demerit to have such thick walls, for it takes longer for the heat of the sun to get through when an occasional warm day comes in winter.

2. Four inches will not be out of the way, allowing 2 inches or more of chaff.

3. Upon trial you'd probably like a larger entrance both in summer and winter, say ¼ by 12 to 16 inches.

4. Yes, if the colony is weak enough and the entrance small enough.

5. I've no experience to speak from, but nowadays I think planer shavings are preferred.

6. I don't know that that has ever been determined.

7. I don't think it has ever been claimed that there is any difference in the longevity of the different races—as blacks and Italians—but there have been individual colonies whose owners thought they lived longer than the average. It might be a profitable thing to follow up such cases and try to fix such a habit.

## Same Old "Manufactured" Story About Comb Honey.

I have encountered quite a few people within the last year who claim that comb honey can be made, and is made, without the help of bees. Recently I met a man who lives in Denison, who wanted to bet me $100 that he could take me to Omaha, Neb., and show me where such honey is made, and show me the very process. Also, that such honey could not be told from the genuine article, by the looks. When told that A. I. Root, for many years, has offered $1,000 for proof that comb honey could be successfully counterfeited, he said that was "a bluff" to defend his own honey, and that he would not own up to it if he did see it made. He further offered to take me to Omaha and show me the plant.

1. Is there any money available from A. I. Root or any one else that could be used to make such fellows show up, or shut up? The sentiment is quite general in our community that comb honey can be counterfeited. I have had as much, or more suspicion shown comb honey in my trade than toward extracted. One man that I sold some to, said his wife wanted to bet 50 cents that that honey had never been inside a bee-hive! I asked him why she thought so, and he replied that she said the sections could never have been inside a bee-hive and be so *clean*! That was all; it was simply suspiciously clean! Wouldn't that almost make any one tired? The man has known me for several years, otherwise I don't think I could have convinced him that the honey was genuine.

2. Now, Doctor, I don't want to seem presumptuous, but

it seems to *me* that if you would give the locality that each question comes from, in your department of "Questions and Answers" it would be of some value. Of course, *you* know the place the questions come from, but suppose I should desire to speculate on the question for myself, it would help me to know whether the questioner lived in Illinois, Texas or California. E. S. M., Crawford Co., Iowa.

ANSWERS.—1. Yes, there's an even $1,000 available from A. I. Root, and I think that any commercial agency will show him to be financially responsible for a good many times $1,000. That is, you can on your own responsibility offer any amount you please up to $1,000 for a pound of comb honey properly finisht without the aid of bees; then if your offer is taken up, and you have to pay the money, you can fall back on A. I. Root to make the offer good.

I think, if A I. Root's offer is called "a bluff," I would talk somewhat in this way: "See here, my friend, if you know where to get a pound of comb honey made without the intervention of bees that can't be told from the genuine article, you're just the man I want to see. I don't care to make any bet in the case, but I do want to buy, and I'll do something that's a good deal safer than betting for you. Bring me the pound of honey with satisfactory proof that the bees have had nothing to do with it, and I'll pay you $10 for it. [Of course, you can name any larger amount, or offer any piece of property, or agree to deposit a sum in the bank to be paid on receipt of goods.] This is no bluff on my part, for I can make money on the honey at the price I offer." In that case I think he'll either have to produce the goods, or shut up.

2. In some cases at least there would be an advantage in knowing something about the locality of the man who has a question answered. The matter may be thought over by our good friend, the editor. You know editors know everything, and I don't know much about anything but bees, and as Josh Billings says, a good deal that I know about bees ain't so. [All right, we'll *try* to know enough hereafter to indicate the locality of the questioner. But we don't "know everything" just yet.—EDITOR.]

### Best Size of Hive-Entrance—Importing Italian Queens.

1. What is the best size for the hive-entrance? Ours is about ¼x8 inches, and I don't think it is large enough. I will tell you why. I have one Langstroth hive which is mouse-eaten in the entrance, and for three years it has more than doubled any other in results. I have several 10-frames besides it, but I prefer the 8-frame dovetail hives.

2. Will it pay me to import Italian queens? Will they do as well as the young queens reared from them?

P. A. N., Iowa.

ANSWERS.—1. There may have been other reasons why that one colony did better than the others, but I've little doubt that at least part of the difference was due to the difference in entrances. I have gradually come to want my hive-entrances larger and larger. One-fourth by 8 inches is smaller than the smallest I ever had, and of late my smallest has been 12x⅜. At this time of the year the entrance is 12x2 inches, the entrance being closed by wire-cloth three meshes to the inch, allowing the free passage of a bee, but excluding mice. In summer some of my hives are raised up in the old-fashioned way, with a block under each corner, making it open clear around.

2. If you mean to furnish queens for all the colonies in an apiary of good size, I'm sure it wouldn't pay at all. It might pay for the sake of getting better stock, and as a rule I think you'd find the imported queens do as well or better than their daughters. But that would depend greatly upon the kind of stock already in your possession. There's nothing impossible about finding stock in this country better than any imported.

### Keeping Bees in a Store.

Next summer I am going to put in my jewelry store a colony of bees in an observatory hive. I want to keep them in the store through the winter. The mercury ranges from 40° at night to 70° in the daytime. Would the bees do all right in such a warm room, if properly ventilated?

T. J. B., New Berne, N. C.

ANSWER.—Generally such things are failures, but I think not always. It's worth the trial. Give abundant entrance.

### Why Melt Back Comb in Sections?—Flavor of Honey Nauseating.

1. Why do sections with full comb have to be cut back instead of letting the bees have the full comb to be refilled? I have a lot of sections which the bees filled and capt, but the honey was so bad (tasting like croup syrup) that I had to wash it out, leaving the sections filled with nice white comb. Now I thought of giving the bees the sections next spring, but having seen several articles about cutting them back, I ask the question for information.

2. Can you suggest any reason for the honey being so nauseous to the taste? It was very dark, and gathered during August and September—the second lot of sections put on the hive; the same colony having filled the first lot of sections earlier in the season with beautiful, clear, limpid honey.

C. M. M., St. George, Md.

ANSWERS.—1. If the combs are perfectly white and clean, and if they do not come within a quarter of an inch of any other surface, then there is no need of cutting back. Often when combs are partly filled, they are daubed on the edges of the cells with propolis, and cutting back, or rather melting down, removes the glue-stained part. Also, there is danger that the part of the comb most fully drawn out, when put in a new position, will be so close to a separator or another section that it will be built to the adjoining surface.

2. Probably the source from which the honey was obtained, but I couldn't give a guess as to that. Possibly from aphides; possibly from something else.

# Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

### The Best Kind of Frames.

**Query 41.**—1. What kind of frames do you think are best, considering merely the convenience of the bee-keeper?

2. Considering the welfare of the bees?—NEBR.

P. H. Elwood—1 and 2. Quinby closed-end.

R. L. Taylor—1 and 2. The New Heddon.

Jas. A. Stone—1 and 2. The Langstroth.

E. France—1 and 2. The Langstroth frame.

Dr. J. P. H. Brown—1 and 2. Langstroth size.

Prof. A. J. Cook—1 and 2. Regular Langstroth.

G. M. Doolittle—1 and 2. Gallup and Langstroth.

Rev. M. Mahin—1. 12x10 inches. 2. 14x12 inches.

Mrs. L. Harrison—1. Langstroth. 2. A deeper frame.

G. W. Demaree—1 and 2. The standard Langstroth, 9⅛x17⅝ inches.

Eugene Secor—1 and 2. The Langstroth, for comb honey and cellar-wintering.

Mrs. J. N. Heater—1 and 2. The standard Langstroth frame, 17⅝x9⅛ inches.

Emerson T. Abbott—1. A modification of the Langstroth. 2. A frame not less than 12 inches deep.

J. E. Pond—1 and 2. I have experimented with about all the frames of any note, and consider the Langstroth frame, that A. I. Root has made for years for the Novice hive, as good as the best, both for convenience and welfare of the bees. It makes but little if any difference what kind of frame is used for the bees. Convenience of the master is the matter to consider.

J. A. Green—1 and 2. All things considered, I think a frame 6 inches deep, held at fixed distances, the best for both bees and bee-keeper.

H. D. Cutting—1 and 2. The Langstroth frame is the cheapest, but I prefer a deeper frame, but the hives cost more than a Langstroth hive.

W. G. Larrabee—1 and 2. I have never used any but Langstroth frames, and they suit me well enough, and it is my opinion that the bees are satisfied.

C. H. Dibbern—1 and 2. I use a standing frame 6x21¼, outside measure, and like it well. For general purposes, I think the regular Langstroth frame is hard to beat.

A. F. Brown—1. The standard Simplicity, 9⅛x17⅝ inches, for the average bee-keeper. For myself, in the produc-

tion of comb honey, a frame 9⅛x14¼ inches, top-bar 16 inches. 2. In a warm climate like this (Florida) the above frames are as good as any.

Dr. A. B. Mason—1. I think the Langstroth frame is the best for my use. I have used only one other kind—the Gallup. 2. The old box-hive, or a divisible brood-chamber.

J. M. Hambaugh—1 and 2. Location and surrounding conditions have much to do with this query. In Illinois I should answer, for extracting, Dadants' methods, for both queries.

Dr. C. C. Miller—1. Frames at fixed distances, with spacers having the smallest possible point of contact, so the frames will not be glued together. 2. Closed ends, and closed, or nearly closed, tops. Warmer.

# General Items.

### May Go to Florida to Keep Bees.

I have kept bees since 1866. For several years it was a failure about every three or four years, but it has changed so that I am glad to get a good one every three or four years. It looks now as if we would have a good crop next year. Let's hope so.

I am so afflicted with rheumatism that I am thinking of moving to Florida next fall, and I want to ask some questions: 1. Would it be best to move my bees down there, or sell them here and buy more there? 2. What will bees cost there? 3. What would it cost to move them to Florida? 4. What is the best way?

R. R. STOKESBERRY.

Vermillion Co., Ind., Dec. 23.

[Will Mr. A. F. Brown, of Florida, kindly answer the questions asked by Mr. Stokesberry?—EDITOR.]

### Report for 1896—The Clovers.

I had, spring count, 20 colonies, increast to 33, and my honey crop was rather poor, but of good quality—350 pounds. I sold it at 12½ and 15 cents per pound. I work for comb honey.

I have been experimenting with sweet clover, and think it will be a great honey-plant for northwest Missouri. The prospects for white clover are good. I am trying alfalfa, but have found out nothing certain, only that it will grow here. It failed to yield nectar the past season. It may be cut twice a year, and make plenty of hay. Stock of all kinds relish it if cut at the proper time. Alsike clover is fine bee-pasture. Success to the American Bee Journal.

J. E. ENYART.

Gentry Co., Mo.

### An Enthusiastic Bee-Man.

I would not attempt to keep bees without the American Bee Journal, and I would like to say contrariwise to the correspondent quoted on page 808 (1896), that, getting "gold-standard prices" for my honey, I am going into bee-keeping more extensively next year.

I started (here in the South) last winter with three colonies in box-hives; transferred to 8-frame dovetail hives, and workt for comb honey, getting 80 pounds from one and 20 pounds each from the other two colonies, making 120 pounds of fine section honey. I increast, by swarming and purchase, to 10 colonies, and I have just purchased an apiary of 20 colonies, making 30 in all; 8 of the 20 are in 8-frame dovetail hives, and the rest in 8-frame Langstroth hives, which I will transfer to dovetail hives next spring.

There is some bee-keeping carried on here, along the Gulf coast, but it is almost all done with black bees and box-hives and "gums;" the honey gathered selling in the local markets at from 8 to 10 cents a pound. Section honey is selling at 15 to 20 cents. I sold about one-half of my honey at 20 cents, right here at home. The rest I used for advertising purposes—"sweetening the local editor" and creating a market for next year's crop (if there is one), and for home consumption.

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### Report for 1896.

G. W. Bell came to town yesterday. He is probably the champion bee-keeper of Clearfield county. Last spring he had 31 colonies. He put 63 in winter quarters, thus more than doubling the number owned last spring. Besides this increase he took off 1,400 pounds of honey; of this amount 1,000 pounds was comb and the balance extracted honey. He says he has no difficulty in marketing it, at fair prices. He uses chaff hives, the lower story surrounded with chaff, affording ample protection against the coldest weather. One colony stored 100 pounds of honey during the past season. Two swarms which were united produced 112 pounds. He has the Italian variety of bees. In order to keep his stock pure he purchast a dozen queen-bees during the season. He is a master of the business and keeps abreast with the latest methods and improvements of the business.—Clearfield (Pa.) Daily Monitor.

### Apis Dorsata Motion Seconded.

I arise to second the motion of Prof. Cook, made on page 789, in regard to the introduction of Apis dorsata by the Department of Agriculture. It seems to be just in line with the work of the Department, and so far there has been no good reason advanced by bee-keepers why the experiment should not be tried. I, for one, want those bees if they are good for anything, and if they are found to be good for nothing, no bee-keeper in the country will be any worse off for their having been tried. Will the editor kindly explain the best way "to set the ball a-rolling?" If there is anything to be done in this locality, in the way of a petition to the Secretary of Agriculture, or laying the matter before Senators or Congressmen, I am ready and willing to do it.

WM. RUSSELL.

Hennepin Co., Minn.

[Mr. Russell, you might write to W. F. Marks, of Chapinville, N. Y., as he has been quite active in the petition work for Apis dorsata.—EDITOR.]

### Poorest Season for Years.

This has been the poorest honey season in this section for years. Last spring I had 85 colonies, and all seemed to be in good condition. Most of my hives have movable bottoms, and four 15-pound honey-boxes on each. There is an entrance at each end, so that in the summer-time it gives the bees plenty of entrance; when they are very strong in bees, and plenty of bloom, they can work at each end of the hive, which I think quite a benefit to them. My hives are also on legs about 10 inches from the ground. It is a hive I got up myself. I have owned and handled bees ever since 1871, and as above stated, this has been the poorest honey season I ever saw in this part of the country. I cleaned up my hives early in the spring, and placed on each hive four empty 15-pound boxes, so the bees would fill up on the poplar and basswood bloom, but the spring was very wet here, with the exception of about eight days in the time of the poplar bloom, when the bees did well, but it only helpt strengthen them while they were rearing brood; they became very strong by the time the basswood came into bloom, but there was so little of it that they did no

good. I sowed about one bushel of buckwheat seed very early, and it bloomed very nicely; the bees workt on it very well early in the morning, but soon slackt up. It never seemed to me they carried heavy loads of honey from it like they do from poplar and basswood bloom.

I did not take a single pound of honey last season. My bees ought to have been fed 600 or 700 pounds of sugar, but I neglected it, as other business was so urgent. But I have not lost hope yet. I have just examined them to-day, drawing out the bottom-boards and brushing them off, and find 5 colonies have died. A tenant lived on my place who was moving away, had 12 colonies, mostly in log gums, which I bought, and brought them home to-day. They now make me 92 colonies. I did not have a single swarm the past season. I winter my bees on the summer stands.

I am well pleased with the Alsike, sweet, crimson, and white clovers, which I purchast last spring, and sowed. It has a nice stand. If the crimson is what I think it will be, I intend to sow next season 20 or 25 acres. I have a good stand of Alsike and sweet clover also.

J. C. WILLIAMSON.

Logan Co., W. Va., Dec. 24.

### Bees Did No Good.

I can't do without the Bee Journal. Bees did no good in this section this year. I did not get a pound of honey from 26 colonies, and I have heard of no one who did get any honey. Long may the "Old Reliable" live to gladden the hearts of those who love the little, busy bee! J. L. DIXON.

Carroll Co., Tenn., Dec. 15.

### Bees a Failure this Year.

My bees were a failure this year. There was no honey at all until late in the fall. I lost bees from starvation in midsummer. I had only 2 swarms out of 17, and one colony died. I think what are left will live through the winter. The American Bee Journal is a welcome visitor.

H. M. PHILLIPS.

Dyer Co., Tenn., Dec. 16.

### Bees Carrying in Pollen.

To-day we are having Florida weather—it was warm—68 degrees in the shade. I walkt out to my bees at 1 p.m., when they were having a jolly good flight, and to my surprise they were carrying in pollen almost like late in the spring. We had only a little cold spell the last of November, which struck the bees a little hard. It had been warm, and came on them so suddenly, and they were scattered around almost too much.

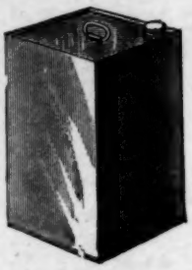
The warm weather is very unfavorable for a peach crop next summer. The buds are showing out very close to blooming; in some localities they are reported in bloom. The growing wheat is looking extra nice. Rain is very much needed, for the streams are very low. L. A. HAMMOND.

Washington Co., Md., Dec. 13.

### The Tall vs. the Square Section.

In renewing my subscription to the American Bee Journal, I cannot refrain from expressing my high appreciation of its value to me personally; it has contained so many valuable suggestions, not mere theory, but practically useful to all amateurs in our useful and interesting field of labor. It is indeed worth its cost many times to the sensible reader.

I have made quite extensive use of the "Danzenbaker" section this year, and find the change from the 4¼x4¼x1⅜ quite profitable; as you are aware, the section measures 3⅛x5x1⅜ for glass; the filled section when glazed weighs a plump pound, and sells by the case readily at 20 cents per section, retailing at 25 cents each, while the 4¼ cannot be retailed at 20 cents while the tall one is in sight. Our New York market

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demands glazed sections; retailers will not handle the unglazed sections, with the risk of mutilation by customers who insist on "looking at the honey."

The bees enter and fill the 1⅝ sections more readily and rapidly, being nearer the thickness of the brood-comb, and of course placing the conditions more nearly to the normal. The question advanced by some of "honesty" in the matter, I think cuts no figure; the sections are sold at so much each, and when filled and glazed weigh a pound, even the 4¼x4¼x1⅝, which I use later in the season.

I have found that after Sept. 1 the bees do not fill the tall sections to the top within, say, three rows of cells, so I put on the 4¼, with quilts on top, and soon the top cells are filled.

It costs 1½ cents to glaze a section; glass by the box, 8x10, cuts for two sections. Often I can get 4-inch strips from wholesale glass houses, and then it costs 1 cent. I fasten the glass in by pasting solid white writing paper on the top and bottom, cutting the paper 3⅝ by 2½ inches, and using good, strong dextrine paste, such as is used on postage stamps. This makes the handsomest package of honey one can see.

Long live the American Bee Journal.

Passaic Co., N. J. B. F. ONDERDONK.

### Painting Rough Lumber White.

On page 823 (1896) the question is askt about painting a bee-house white cheaply.

It can be done by using the recipe given below. It need not be made of planed lumber; the coat of paint will stay longer on rough, unplaned lumber. It will last three years, in good condition:

Take skimmed sweet milk—get all the cream off; mix with 10 pounds of Spanish white, one ounce of fresh, air-slackt lime; sift it fine, and mix thoroughly by stirring. Apply it as you would paint. Be sure to cover thoroughly all of the wood. Two coats are all it requires to make a finish. It can be painted with lead afterward, and make a good job of it. I have had a good deal of experience with it. I have been in the painting business 60 years. S. T. C.

### Advises Greater Neatness.

I saw a statement in the Bee Journal, of a correspondent who said that he used horse manure in his bee-smoker, while using it on the bees during the honey season, to quiet them. I also saw an account of a way to test barrels before putting extracted honey into them. The test was to blow the breath into them to find out whether they were perfectly tight or not. Now, do not such statements have a tendency to cheapen our honey in the market? What more dirty thing can one do than to blow his breath into a dry barrel where the staves are dry enough to take up the moisture? We have had enough of such stories, and although the man stands high amongst bee-keepers in his State, I hope there will be a stop put to all such practices.

I am—as I hope all other bee-men are—trying to put my bee-product on the market in the very best shape, and as clean as clean can be; and I think all such stories as those referred to have a tendency to make customers believe that bee-men are not very careful in putting up our honey crop for the market. Let us all work together for the good of the bee-business, for better prices, and for nice, clean honey.

W. H. E.

### Prevention of Colic.

Mr. T. S. Hurley, on page 796 (1896), wishes to know what he must do to avoid colic. A lady stopt with me for a short time with two little boys. She saw my children eating all the fruit they wanted without any restrictions, and she said she dared not allow her boys to eat fruit, because it made them bilious, and gave them bilious colic, etc. My reply was: "You certainly must be mistaken, for good, ripe fruit never did, and never can, make any one bilious. In fact, it is a preventive," etc. She was positive it did, and I was just as positive it did not. Now allow me to explain:

The bile is already in the system, and eating the fruit causes it to flow into the stomach, hence the distress. Biliousness is caused by bad living and clogging up the system, either by over-eating or eating bile-producing food, more than can be thrown off naturally. By the lady cooking and living as I directed, she soon found that her boys could eat all the fruit they wanted, and colic never troubled them. Now, Mr. Hurley, think the matter over.

Orange Co., Calif. DR. E. GALLUP.


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| Alsike Clover..... | $ .70 | $1.25 | $3.00 | $ 5.75 |
| White Clover..... | 1.25 | 2.00 | 4.50 | 8.00 |
| Alfalfa Clover..... | .65 | 1.10 | 2.70 | 5.00 |
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Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

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# HONEY and BEESWAX

## MARKET QUOTATIONS.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

NO. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed: both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

**Chicago, Ill., Jan. 7.**—Fancy white, 12@13c.; No. 1, 11c.; fancy amber, 9@10c.; No. 1, 8c.; fancy dark, 8@9c.; No. 1, 7@8c. Extracted, white, 5@7c.; amber, 5@6c.; dark, 4½c. Beeswax, 26c.

Comb honey sales are of small volume.

**Philadelphia, Pa., Dec. 31.**—Fancy white comb, 13-14c.; No. 1 white, 11-12c.; fancy amber, 10-11c.; dark, 8-9c. Extracted, white, 6-8c.; amber, 4-5c.; dark, 3-4c. Beeswax, 26c.

Comb honey arriving freely and market overstocked at present.

**Albany, N. Y., Dec. 31.**—Fancy white, 12-13c.; No. 1, 11-12c.; fancy amber, 9-10c; No. 1 dark, 8-9c. Extracted, white, 6-7c.; dark, 4-5c.

The receipts of both comb and extracted honey are very large, and prices are somewhat lower. We have an ample stock of all styles except paper cartons weighing less than a pound.

**Indianapolis, Ind., Dec. 31.**—Fancy white, 14-15c.; No. 1 white, 12-13c. Extracted, white, 6-7c. Beeswax, 22-25c.

Demand is fair for grades quoted, but no demand for inferior grades.

**Kansas City, Mo., Dec. 31.**—Fancy white comb, 15c.; No. 1 white, 13@14c.; fancy amber, 12-13c.; No. 1 amber, 11-12c.; fancy dark, 10-11c.; No. 1, 8-10c. Extracted, white, 6-6½c.; amber, 5-5½c.; dark, 4-4½c. Beeswax, 22-25c.

**Boston, Mass., Dec. 31.**—Fancy white, 13-14c.; No. 1, 11-12c. Extracted, white, 6-7c.; amber, 5-6c. Beeswax, 25c.

**Milwaukee, Wis., Dec. 31.**—Fancy white, 14-15c.; No. 1, 12-13c.; No. 1 amber, 8-10c. Extracted, white, 6-7c.; amber, 5-6c.; dark, 4-5c. Beeswax, 22-24c.

New crop of honey begins to come forward. The demand is very poor and quotations almost nominal. Weather is very warm and the consumption of honey is very small. Plenty of fruit, and hence the appetite is satisfied with same in preference. Later on we expect an improved demand for honey of all kinds.

**Cleveland, Ohio, Dec. 31.**—Fancy white, 14½@15c.; No. 1 white, 12½@13c. Extracted, white, 6@7c.; amber, 4½@5½c. Beeswax, 22@25c.

There is not very much honey in our market. Selling rather slow. Demand beginning to be a little better. Think trade will be fair in this line this fall.

**New York, N. Y., Dec. 31.**—Fancy white, 11@12c.; fair white, 9@10c.; buckwheat, 7@8c. Extracted, white clover and basswood, 5@5½c.; California, 6c.; Southern, 50c. per gallon. Beeswax in fair demand at 26@27c.

The market is quiet and inactive. Demand light and plenty of stock on the market.

**Cincinnati, Ohio, Dec. 31.**—Comb honey, best white, 10@14c. Extracted, 4@6c. Demand is slow; supply is fair.

Beeswax is in fair demand at 22@25c. for good to choice yellow.

**Buffalo, N. Y., Dec. 31.**—Fancy and No. 1 white comb, sells well at 10 and 11c, but seldom 12c.; other grades, 8-6c., and require much urging. Extracted 4-5c.

**St. Louis, Mo., Dec. 30.**—Fancy white, 14c.; No. 1 white, 12@13c.; fancy amber, 11@12c.; No. 1 amber, 10@10½c.; fancy dark, 9@9½c.; No. 1 dark, 7@8c. Extracted, white, in cans, 6@7c.; in barrels, 5@5½c.; amber, 4½@4¾c.; dark, 3½@4c. Beeswax, 26½@27c.

Baker stock of extracted honey, 4@5c; stock very scarce. Fair receipts of comb. Beeswax in good demand.

**Detroit, Mich.; Dec. 31.**—No. 1 white, 12-12½c.; fancy amber, 10-11c.; No. 1 amber, 9-10c.; fancy dark, 8-9c. Extracted, white, 5½-6c.; amber, 5-5½c.; dark, 4-5c. Beeswax, 24-25c.

**Minneapolis, Minn., Dec. 31.** — Fancy white, 11@12c.; No. 1 white, 10@11c.; fancy amber, 9@10c.; No. 1 amber, 8@9c.; fancy dark, 7@8c.; No. 1 dark, 6-7c. Extracted, white, 6@7c.; amber, 5@5½c.; dark, 4@5c. Utah white extracted, 5@5½c. Beeswax, 23@26c. Market fairly steady for comb and better for extracted than for some time.

**San Francisco, Calif., Dec. 30.**—White comb, 10-11c.; amber, 7½-9c. Extracted, white, 5½-6c.; light amber, 4¼-4½c.; amber colored and candied, 3¾-4¼c.; dark tule, 2¾-3c.

Beeswax, fair to choice, 23-26c.

## List of Honey and Beeswax Dealers.

Most of whom Quote in this Journal.

**Chicago, Ills.**
R. A. BURNETT & CO., 163 South Water Street.

**New York, N. Y.**
HILDRETH BROS. & SEGELKEN,

**Kansas City, Mo.**
C. C. CLEMONS & CO., 423 Walnut St.

**Buffalo, N. Y.**
BATTERSON & CO., 167 & 169 Scott St.

**Hamilton, Ills.**
CHAS. DADANT & SON.

**Philadelphia, Pa.**
WM. A. SELSER, 10 Vine St.

**Cleveland, Ohio.**
WILLIAMS BROS., 80 & 82 Broadway.

**St. Louis, Mo.**
WESTCOTT COM. CO., 213 Market St

**Minneapolis, Minn.**
S. H. HALL & CO.

**Milwaukee, Wis.**
A. V. BISHOP & CO.

**Boston, Mass.**
E. E. BLAKE & CO., 57 Chatham Street.

**Detroit, Mich.**
M. H. HUNT, Bell Branch, Wayne Co., Mich.

**Indianapolis, Ind.**
WALTER S. POUDER, 162 Massachusetts Ave.

**Albany, N. Y.**
CHAS. MCCULLOCH & CO., 380 Broadway.

**Cincinnati, Ohio.**
C. F. MUTH & SON, cor. Freeman & Central avs.

ILLINOIS.—The annual meeting of the Illinois State Bee-Keepers' Association will be held at the State House, in Springfield, Feb. 24 and 25, 1897. The State Farmers' Institute meets the same week—including all the State live stock associations—and our Executive Committee, along with them, arranged for this date, in order that the Legislature might be in good working condition. (We all know what for.) There will be an effort made this winter to get a Pure Food Bill past, and that means bee-keepers want a hand in it, to see that the adulteration of honey shall cease FOREVER AND EVER. Two years ago we succeeded in getting an Anti-Adulteration Bill through the Senate, but it failed in the House, only for want of push. Let bee-keepers throughout the State impress upon their Representatives the importance of such a bill, and come to our meeting to refresh their minds on the subject.

Railroad rates will be no greater than a fare and a third, which will be announced later. Our programs will be issued along with the other State Associations named above. JAS. A. STONE, Sec.

Bradfordton, Ill.

# Bottom Prices

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**GOOD GOODS KEEP IT.**

If you want the best supplies that can be made at a little less cost than you can buy the same goods for elsewhere, write to us for low prices. **1897 Catalogue** soon ready—ask for it and a free copy of **The American Bee-Keeper** (36 pages).

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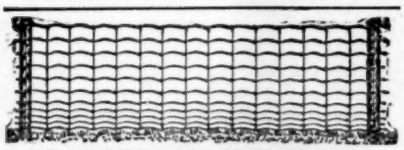

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If you were going on a journey and the P. W. W. F. Co., offered you a reasonable rate over their **"Coiled Spring Route,"** splendid service, safety guaranteed—would you take it? Or, to save expense, would you "pump" yourself over the road on a hand car? If you choose the latter, **be sure the hand car has the right of way.**

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The Yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by and expert bee-man. Besides this, the paper also tells you all about **California Agriculture and Horticulture.** $1.50 per Year; Six Months, 75 cents. Sample Free.

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45Ctf Address, W. F. & JOHN BARNES, No. 995 Ruby St., Rockford, Ill.

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OHIO AND PA.—The Northeastern Ohio and Northwestern Pennsylvania Bee-Keepers' Association will hold its 16th annual convention at Corry, Pa., Jan. 21 and 22, 1897. Headquarters will be at the St. Nicholas Hotel; rates reduced during the convention to $1 per day for board and lodging, to those attending the convention. Let there be a good attendance. The question-box will be a prominent feature, so bring your questions. Corry is at the intersection of the Erie and Philadelphia-Erie railroads. GEO. SPITLER, Sec.
Mosiertown, Pa.


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BEE-KEEPERS' SUPPLIES in general, etc., etc. Send for our new catalog.

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**Chas. F. Muth & Son, Cincinnati, Ohio.**

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# Cut Prices to Move Stock!!

There are a few items of desirable stock left of the goods secured of Thomas G. Newman when we took charge of his supply business here. In order to close these out and make room for fresh, new goods, we have decided to offer these at prices which will make them go.

The following is the list, which will be corrected as the stock is sold; if you see what you want here, order AT ONCE, or you may be to late:

V-Top Langstroth Frames, 75c per 100; 250 for $1.25; 500 for $2.
All-Wood Frames, pierced for wire, same price while they last.
50 Comb Honey Racks, to hold sections on the hive, flat, $1.00 for the lot.
No. 3 VanDeusen Thin Flat-Bottom Fdn., in 25-lb. boxes, $10.50 a box.
Wakeman & Crocker Section-Press, 50c each (old price, $1.25).
Townsend Section-Press, 50c. (old price, $1.)
Hastings' Feeders, 10c each (old price, 25c.); postage, 13 cts. extra.
18 Shuck Feeders, 8c each, $1.00 for the lot (old price, 20c.)
Hill Feeders, quart size, 8c each, 75c per doz. (less than half old prices).
Hill Smokers, 40c each; by mail, 60c.
Quinby Smokers at 50c, 70c, and $1.00 each—20c extra by mail.
Jones' Frame-Pliers, 10c each; by mail, 10c extra (old price, 25c and postage).

**If wanted by Freight, add 25c for cartage on orders for less than $5**

THE A. I. ROOT COMPANY,
**Geo. W. York, Manager.** **118 Michigan Street, CHICAGO, ILL.**